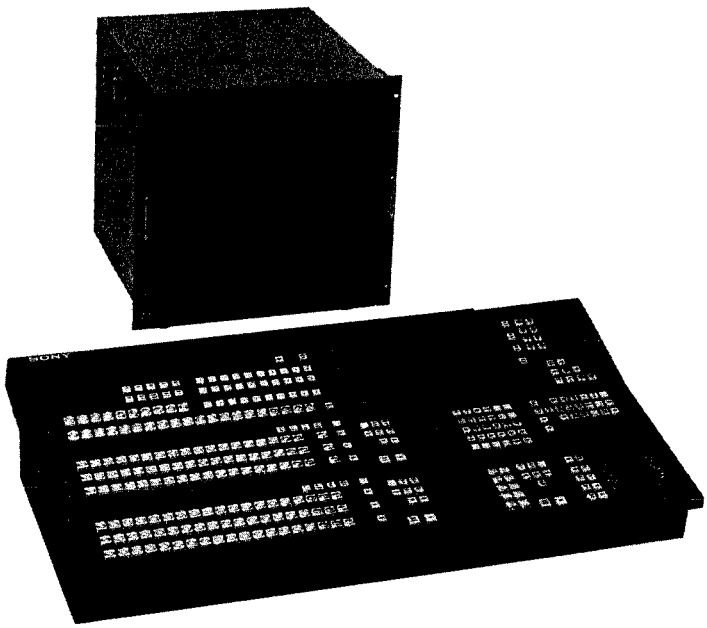
SONY

DIGITAL VIDEO SWITCHER

DVS-6000/6000C

SWITCHER CONTROL PANEL

BKDS-6010



BKDS-6050 BKDS-6060 BKDS-6061 BKDS-6062 BKDS-6063
BKDS-6064 BKDS-6070 BKDS-6071 BKDS-6072 BKDS-6073
BKDS-6074 BKDS-6090 BKDS-8022

INSTALLATION AND MAINTENANCE MANUAL Part 1
1st Edition (Revised 1)
Serial No. 10001 and Higher

For customers in the U.S.A.

WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC rules.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING
For the customers in the U.S.A.

Changing the voltage selector may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

For the customers in Canada
This apparatus complies with the Class A limits for radio noise emissions set out in radio interference regulations.

Pour les utilisateurs au Canada
Cet appareil est conforme aux normes Classe A, pour bruits radioélectriques. Tel que spécifiér dans le reglement sur le brouillage radioélectrique.

Bescheinigung des Herstellers
Hiermit wird bescheinigt, daß die Digital-Video-Schalteinheit DVS-6000C in Übereinstimmung mit den Bestimmungen der BMPT-Amtsblatt Vfg 243/1991 und Vfg 46/1992 funkenstört ist. Der vorschriftsmäßige Betrieb mancher Geräte (z.B.Meßsender) kann allerdings gewissen Einschränkungen unterliegen. Beachten Sie deshalb die Hinweise in der Bedienungsanleitung. Dem Bundesamt für Zulassungen in der Telekommunikation wurde das inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestmmungen eingeräumt.

Sony Deutschland GmbH
Hugo Eckener Str 20
D-5000 Köin 30

Hinweis
Gemäß der Amtsblätter des BMPT Nm. 61/1991 und 6/ 1992 wird der Betreiber darauf aufmerksam gemacht, daß die von ihm mit diesem Gerät zusammengestellte Anlage auch den technischen Bestimmungen dieser Amtsblätter genügen muß.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25V so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20V AC range are suitable. (See Fig. A)

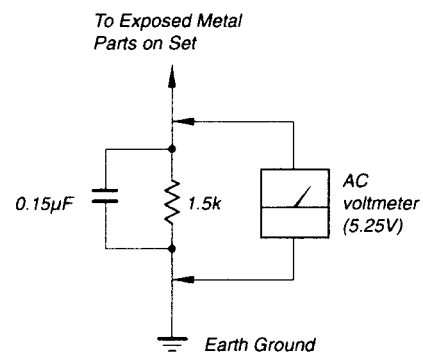


Fig. A. Using an AC voltmeter to check AC leakage.

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About the Manuals for the DVS-6000/6000C Digital Video Switcher System

The DVS-6000/6000C Digital Video Switcher System is made up of the DVS-6000/6000C Video Switcher, which forms the processor component, and the BKDS-6010 Switcher Control Panel. The following manuals are necessary to operate these two units.

DVS-6000/6000C Installation and Maintenance Manual Part 1

(This manual, supplied with the switcher)
Section 1, "Operation" gives an overview of the DVS-6000/6000C system and optional accessories, explains the function of parts for the switcher, and gives connection examples. Persons responsible for management of the system are required to read this section first.
The second and following sections contain information needed for installation and periodic maintenance. Read these sections when maintenance is necessary, or when trouble develops.

BZS-6020 User's Guide

(Supplied with operation software)
Explains operating procedures and the function of each part of the control panel. Read this manual before operating the control panel.

DVS-6000/6000C Installation and Maintenance Manual Part 2

(Optional)
Contains information about the hardware of the processor and control panel.

Section 1 OPERATION

1-1 Overview of the DVS-6000/6000C

The DVS-6000/6000C Digital Video Switcher is a high performance D2/D1 format digital switcher that enables broadcasting stations and production houses to construct digital video systems. Most switcher operations are carried out using the optional BKDS-6010 Control Panel.
This section will use the following terms for the components of the system.

Full name	Terms used in this section
DVS-6000/6000C Digital Video Switcher	Switcher
BKDS-6010 Switcher Control Panel	Control panel

1-1-1 Principal Featuresx

Completely digital processing for high picture quality and excellent stability

Serial digital signals such as D2/D1 format signals from video tape recorders are processed internally by all-digital circuits and output unchanged as serial digital signals. The switcher uses 10-bit words for I/O, and extended words of up to 14 bits for internal processing. This prevents signal characteristic degradation and makes it possible to perform advanced video processing without compromising high picture quality, the primary advantage of digital video.
The input unit is equipped with buffer memory, which allows automatic phase adjustment of input signals with respect to reference signals to within ±0.4 H, and also ensures stable operation even if the input signals have a certain amount of jitter.

Serial digital format for all I/O

All digital I/O is handled in serial format, making it possible to transfer digital video signals over a single cable with BNC connectors. Compared to conventional parallel I/O, the serial format makes it easier to connect the switcher to other equipment and greatly simplifies overall system configuration. It also makes it possible to transfer signals over long distances.

Expandable primary inputs

The digital primary inputs are expandable to 32 channels with optional BKDS-8022 boards. The optional BKDS-8021 Analog Input Board is also available for input of analog composite signals from conventional analog systems (DVS-6000).
All input signals can be used for background, key fill and key source.

1. OPERATION

Link operation with DME-5000

By installing the optional BKDS-6050 Key Frame Control Panel and attaching the DME-5000 Digital Multi Effect, you can achieve KEY FRAME LINK® control of both the switcher and the digital multi effect unit from the control panel. This allows you to coordinate switcher key frames and DME-5000 key frames for sophisticated video processing.

Numerous optional functions

Numerous optional functions are available to increase the flexibility of the system, including expansion of primary input channels, an interface for analog composite signal input (DVS-6000), a chroma keyer and frame memory. These functions become available simply by installing optional circuit boards in the switcher.

Interface with external equipment

The switcher has an interface for the BVE-9000/9100 Editing Control System, which allows you to perform advanced editing operations such as saving data prepared with the control panel and simulating key frame operations. You may also connect external equipment such as the PFV-D100 Digital Video Interface Unit, matrix switchers, control terminals and tally equipment.

Low power consumption and compact size

Many switcher functions have been realized in integrated circuits. This permits low power consumption and compact size, with no sacrifice in full switcher functionality.

Easy maintenance

The power supply, circuit boards, fan motor and other principal components are accessible from the front of the cabinet, for easy maintenance and shorter down time in the event of a malfunction. The number of switches and controls has been held to a minimum, using software control as far as possible for circuit adjustments and settings. The BKDS-6090 Spare Power Supply Unit is available to shorten down time in the event of power failure.

Powerful switcher functions

The control panel features two M/E blocks and one downstream keyer block. There are two independent keyers, one for each M/E block. The keyers are equipped with powerful modifiers, for stepwise preparation of complex video effects. You can save data prepared using a 3.5-inch floppy disk drive equipped in the control panel for later repetition of the same effect.
For more information, refer to the User's Guide for the optional BZS-6020.

1-1-2 Optional Accessories

BKDS-6010 Switcher Control Panel
Control panel for the DVS-6000/6000C.

BKDS-8021 Analog Input Board
Provides input of analog composite signals to the DVS-6000. Up to 8 channels of video signals can be input.

BKDS-8022 Digital Input Board
Provides input of serial digital signals to the DVS-6000/6000C. Up to 8 channels of video signals can be input.

BKDS-8030 Clean Chroma Key Board
Provides RGB (YUV) chroma key/clean chroma key functions for the DVS-6000. It supports foreground and background video adjustment.

BKDS-8031 Clean Chroma Key Board
Provides a clean chroma key function for the DVS-6000C. It supports foreground video adjustment.

BKDS-8040 Frame Memory Board
Provides frame memory for the DVS-6000. It has a capacity of 2 frames × 2 channels.

BKDS-8041 Frame Memory Board
Provides frame memory for the DVS-6000C. It has a capacity of 1 frame × 2 channels.

BKDS-6050 Key Frame Control Panel
Provides control of key frames with the DVS-6000/6000C, allowing you to edit and execute key frames.

BKDS-6060 Digital Edit PVW/REF (preview/reference) Output Board
Provides edit preview output with the DVS-6000/6000C. It supports 3 channels of D2/D1 serial digital signals and 1 channel of reference (black burst) signal.

BKDS-6061 Analog Edit PVW/REF (preview/reference) Output Board
Provides edit preview output with the DVS-6000. It supports 3 channels of analog composite signals and 1 channel of reference (black burst) signal.

1. OPERATION

BKDS-6062 Analog Edit PVW/REF (preview/reference) Output Board

Provides edit preview output with the DVS-6000C. It supports 1 channel of analog component signal and 1 channel of reference (sync or black burst) signal (black burst signal is available in 525 mode only). It has a selector to switch between sync and black burst signals.

BKDS-6063 Digital Output Board

Provides output of D2/D1 serial digital signals with the DVS-6000/6000C. One board outputs one signal channel. Up to 10 boards can be installed in the switcher.

BKDS-6064 Analog Output Board

Provides output of analog composite signals with the DVS-6000. One board outputs one signal channel. Up to 10 boards can be installed in the switcher.

BKDS-6070 Enhanced Wipe Generator Board

An enhanced wipe generator for the DVS-6000/6000C. Supports processing of up to 2 M/E block channels.

BKDS-6071 Key Border Generator Board

A key border generator for the DVS-6000/6000C. One board can process one M/E block channel (2 keyers). Up to 2 boards can be installed in the switcher.

BKDS-6072 BKGD (background) Color Mix Generator Board

A background color mix generator for a DVS-6000/6000C equipped with a wash generator. One board can process one channel. Up to 2 boards can be installed in the switcher.

BKDS-6073 M/E PVW/KEY Out Option

With the two kinds of ICs (total four ICs on) installed onto the MIX-8 board of DVS-6000, the preview signals of ME1 and ME2 can be output to ASSIGN OUT, AUX1 through AUX6 and EDIT PVW OUT. If you change the setting of SETUP menu, the processed key signal can be output.

BKDS-6074 M/E PVW/KEY Out Option

With the four kinds of ICs (total eight ICs on) installed onto the MIX-8A of DVS-6000C, the preview signals of ME1 and ME2 can be output to ASSIGN OUT, AUX1 through AUX6 and EDIT PVW OUT. If you change the setting of SETUP menu, the processed key signal can be output.

BKDS-6090 Spare Power Supply Unit

A spare power supply for the DVS-6000/6000C. In case of a processor power failure, can be exchanged with the power supply of the switcher from the front panel for rapid restoration of operations.

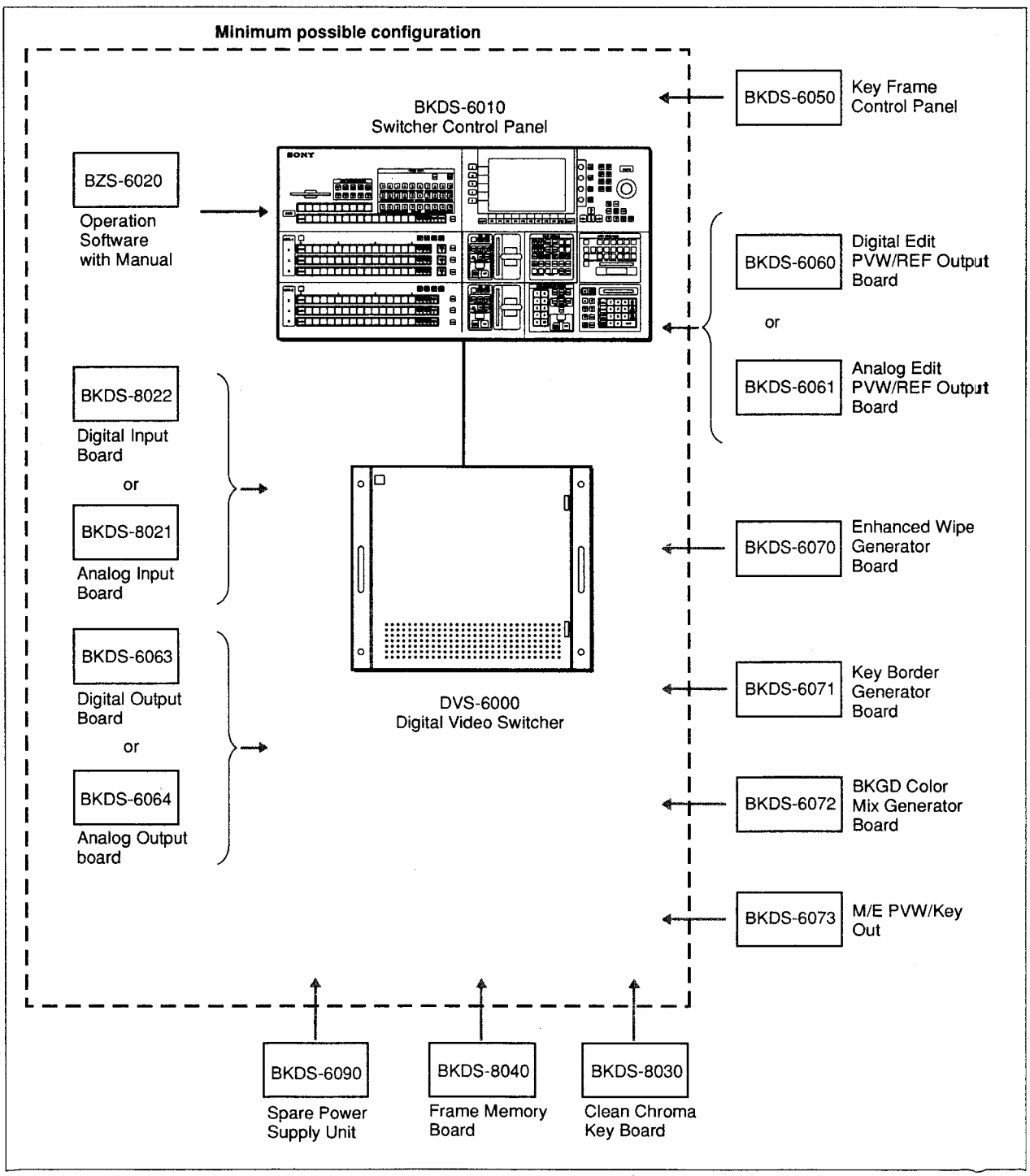
BZS-6020 Operation Software with Manual

Operation software for the DVS-6000/6000C and BKDS-6010. Supplied with a User's Guide explaining how to use the control panel.

1-1-3 Peripheral Equipment Configuration

The following diagrams show the switcher and peripheral equipment. The minimum possible configurations are shown within the dotted lines.

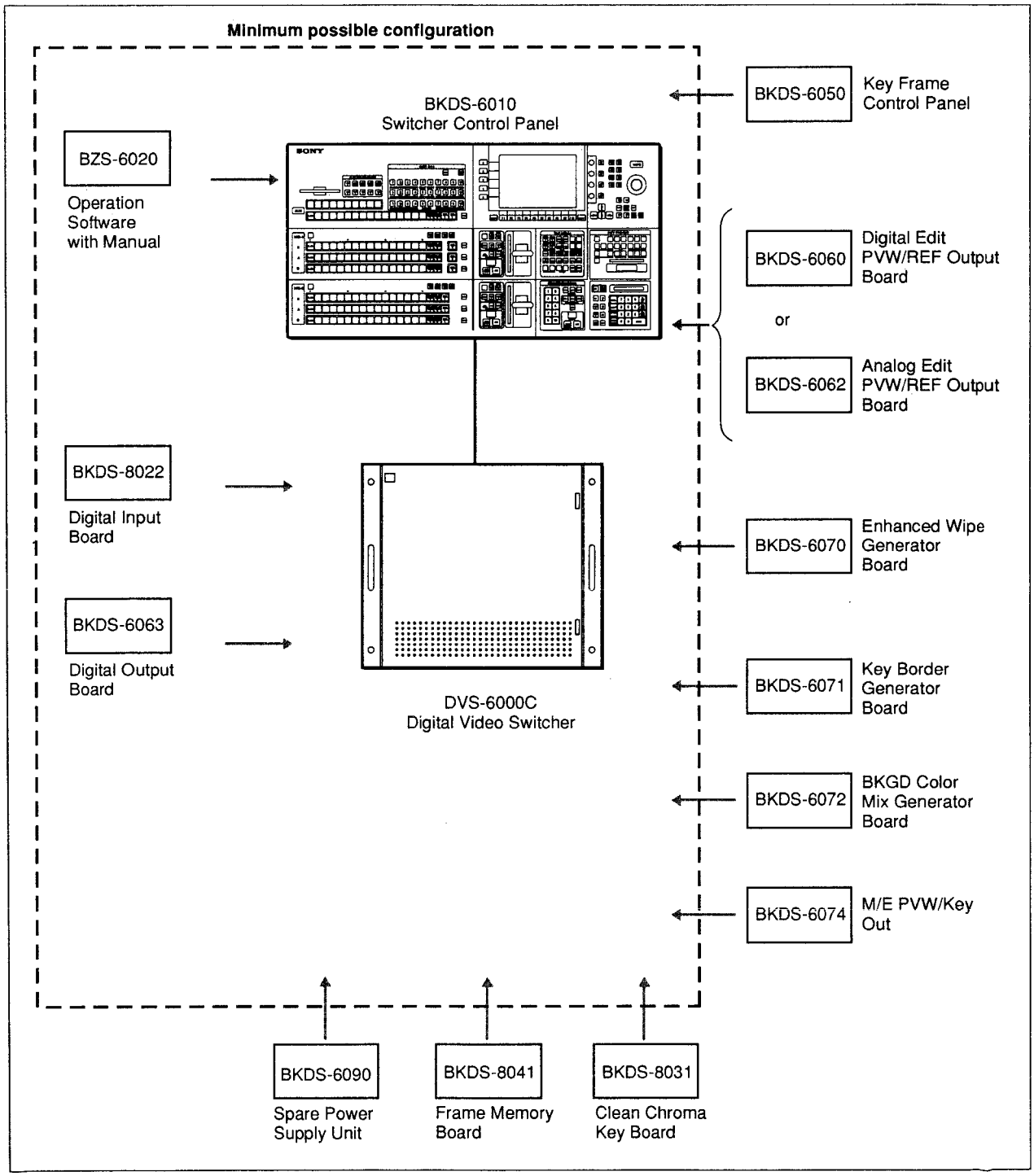
DVS-6000 peripheral equipment configuration



DVS-6000 peripheral equipment configuration

1. OPERATION

DVS-6000C peripheral equipment configuration



DVS-6000C peripheral equipment configuration

1-1-4 Important Precautions

Setting the voltage selector

Set the VOLTAGE SELECTOR located inside the front panel to the appropriate position to comply with your local line voltage.

For the location of the VOLTAGE SELECTOR, see page 1-9 (E).

Removing and installing circuit boards

Do not remove circuit boards unless absolutely necessary. When it is necessary to remove circuit boards for maintenance or to install optional boards, follow these guidelines.

- Before removing or installing a board, always turn off the POWER switch of the switcher.

  For the location of the POWER switch, see page 1-9 (E).

- After installing a board, and before turning the POWER switch on, confirm that the slot number shown in the interior of the switcher agrees with the slot number shown on the board installed.

Note

Failure to observe the above precautions may result in damage to the circuit.

About the circuit breaker

If excess current is detected within the switcher, a circuit breaker is activated to automatically shut down the power supply. If the unit does not power on even with the POWER switch in the ON position, open the front panel and press the white BREAKER button.

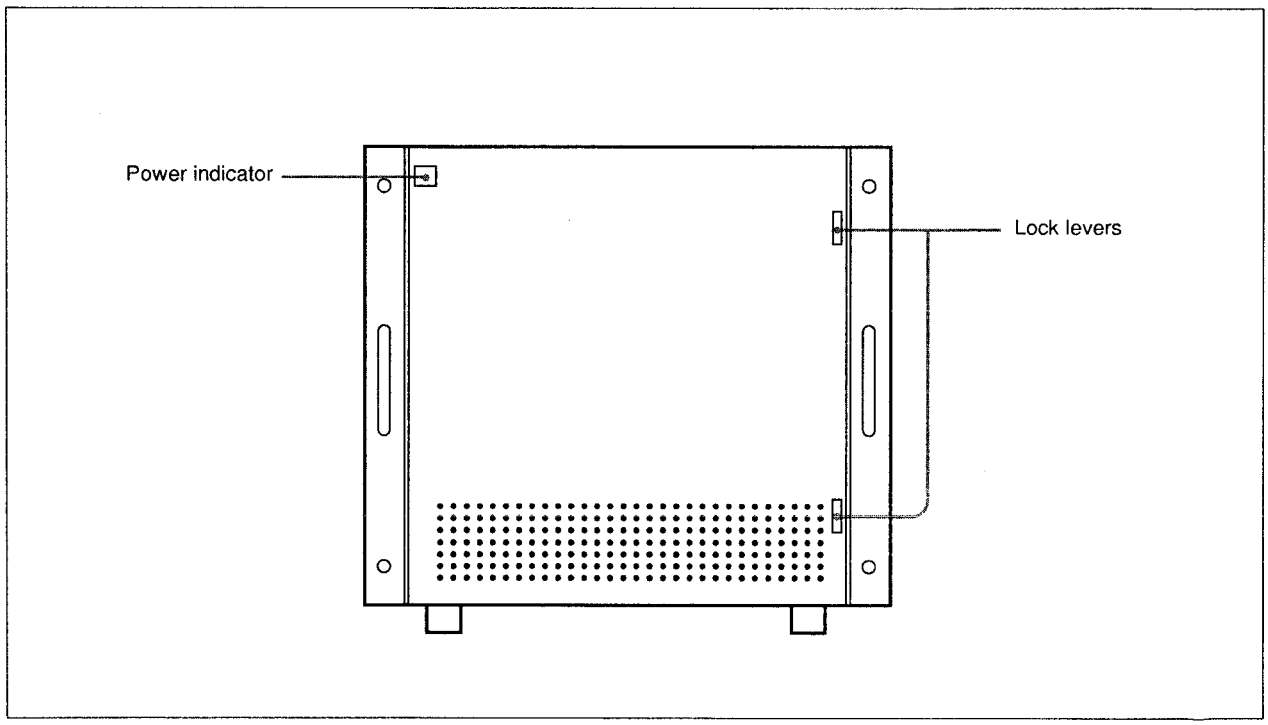
For the location of the BREAKER button, see page 1-9 (E).

1. OPERATION

1-2 Location and Function of Parts

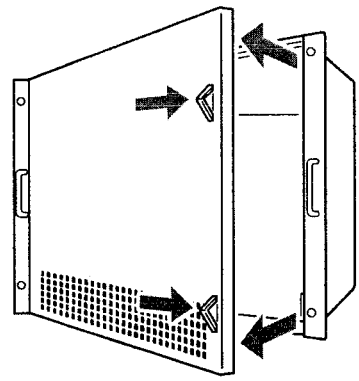
1-2-1 Front Panel and Interior

Front panel



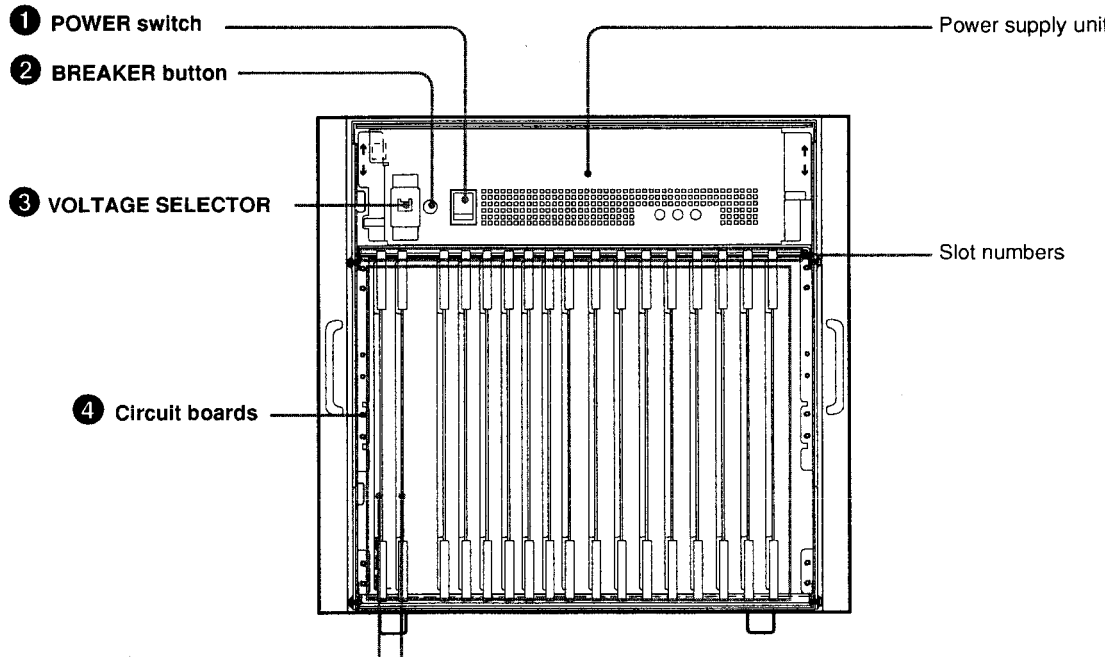
Front panel

Interior



Push in the bottom of the lock levers and pull forward.

How to open the front panel



Interior

1. OPERATION

❶ POWER switch
Switch to turn the power on or off.

❷ BREAKER button
If excess current is detected within the switcher, this button is automatically raised and the power is shut down.

❸ VOLTAGE SELECTOR
Set to switch between power supply voltages of 100 to 120 V or 200 to 240 V.

❹ Circuit boards
Boards correspond to slot numbers as follows.

DVS-6000 slot numbers and circuit boards

Slot number	Standard boards	Optional boards	
		Board name	Model name
1	CPU-147 CPU board	—	—
2	SG-210+LE-118[a] sync generator board	SD-30 Digital Edit PVW/REF Output Board	BKDS-6060
		or	
		DA-71 Analog Edit PVW/REF Output Board	BKDS-6061
3	—	—	—
4	WKG-10 basic wipe board[b]	WP-37 Enhanced Wipe Generator Board	BKDS-6070
5, 7	KPC-5 key processor board[b]	BD-22 Key Border Generator Board	BKDS-6071
6, 8	MIX-8 mixer board[c]	(M/E PVW/Key Out Option)	(BKDS-6073)
9	DSK-9 downstream keyer board	—	—
10	OUT-3 output processor board	SD-31 Digital Output Board	BKDS-6063
		or	
		DA-73 Analog Output Board	BKDS-6064
11	—	CRK-5 Clean Chroma Key Board	BKDS-8030
12	—	ADC-5 Clean Chroma Key Board	BKDS-8030
13	MAT-4 matte generator board[b]	MT-90 BKGD Color Mix Generator Board	BKDS-6072
14	—	MY-50 Frame Memory Board	BKDS-8040
15-18	—	XPT-3 Digital Input Board	BKDS-8022
		or	
		ADC-9 Analog Input Board	BKDS-8021

a) When installing an optional board, replace this board with the optional board.
b) When installing an optional board, replace the dummy board in this slot with the optional board.
c) Install optional ICs on this board.

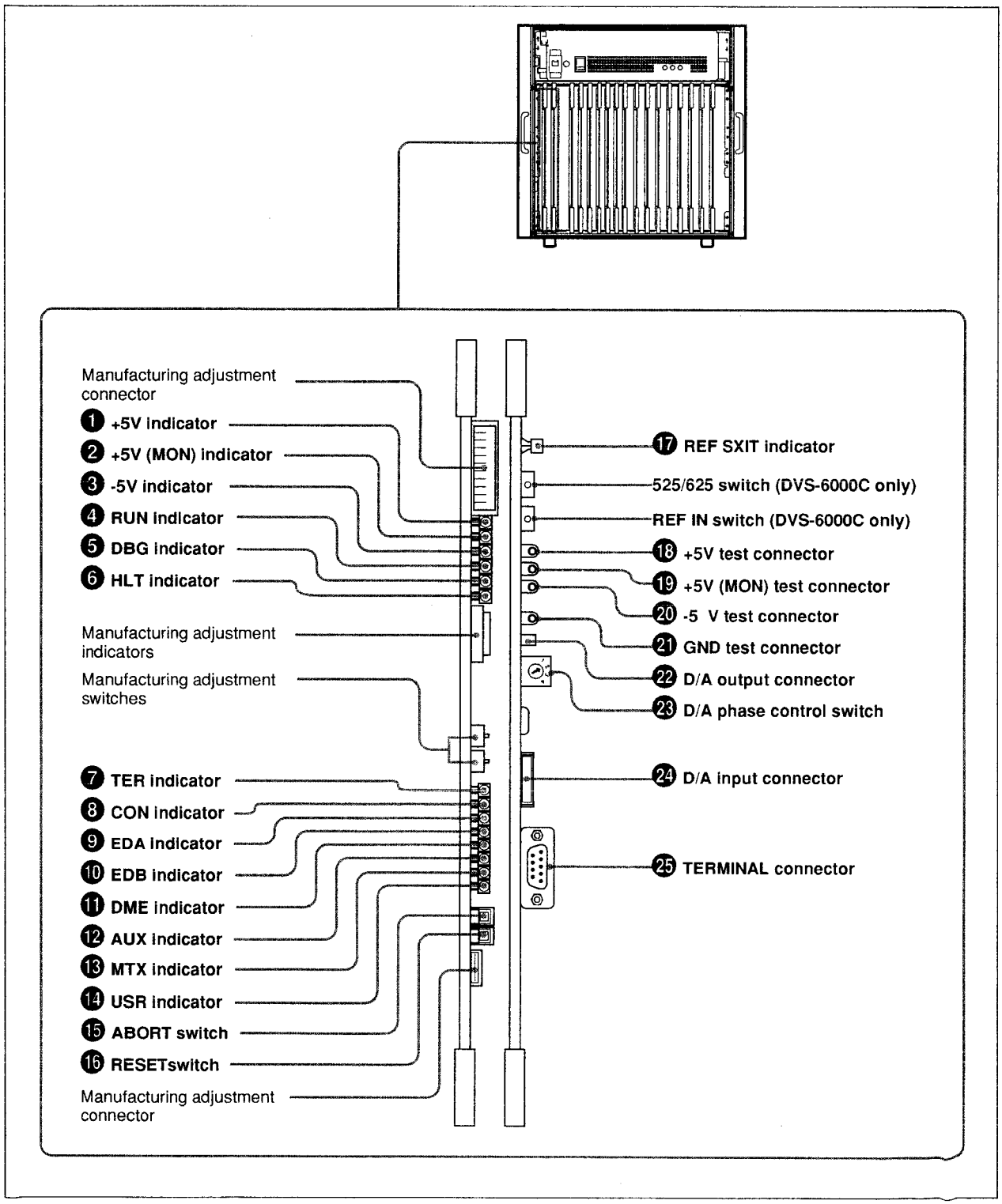
DVS-6000C slot numbers and circuit boards

Slot number	Standard boards	Optional boards	
		Board name	Model name
1	CPU-147 CPU board	—	—
2	SG-211+LE-118[a] sync generator board	SD-30 Digital Edit PVW/REF Output Board	BKDS-6060
		or	
		DA-72 Analog Edit PVW/REF Output Board	BKDS-6062
3	—	—	—
4	WKG-10 basic wipe board[b]	WP-37 Enhanced Wipe Generator Board	BKDS-6070
5, 7	KPC-5 key processor board[b]	BD-22 Key Border Generator Board	BKDS-6071
6, 8	MIX-8A mixer board[c]	(M/E PVW/Key Out Option)	(BKDS-6074)
9	DSK-9A downstream keyer board	—	—
10	OUT-3 output processor board	SD-31 Digital Output Board	BKDS-6063
11	—	CRK-4 Clean Chroma Key Board	BKDS-8031
12	—	CRK-4 Clean Chroma Key Board	BKDS-8031
13	MAT-4 matte generator board[b]	MT-90 BKGD Color Mix Generator Board	BKDS-6072
14	—	MY-51 Frame Memory Board	BKDS-8041
15-18	—	XPT-3 Digital Input Board	BKDS-8022

a) When installing an optional board, replace this board with the optional board.
b) When installing an optional board, replace the dummy board in this slot with the optional board.
c) Install optional ICs on this board.

1. OPERATION

The CPU-147, SG-210 (or SG-211) and LE-118 (or SD-30, DA-71, DA-72) boards are equipped with indicators to show the current state of the switcher. In addition, there are controls and parts for tests mounted on the side facing the front panel. The following section explains the location and function of these parts.



Switches, indicators and connectors on the circuit boards

❶ +5 V indicator (green)
Shows the state of the +5 V power supply for board slots 1 through 9. Lights when power is being supplied normally, and goes out when the F1 fuse on the CPU-147 board blows or when +5 V power is not being supplied.

❷ +5 V (MON) indicator (green)
Shows the state of the +5 V power supply for board slots 10 through 18. Lights when power is being supplied normally, and goes out when +5 V power is not being supplied.

❸ –5 V indicator (green)
Shows the state of the –5 V power supply for the system as a whole. Lights when power is being supplied normally, and goes out when one of the F2 fuses on the CPU-147, SG-210 (or SG-211) and LE-118 boards blows, or when –5 V power is not being supplied.

❹ RUN (CPU operation) indicator (green)
Shows the operating status of the CPU. Lights when the CPU is operating normally, and goes out when the CPU has been halted.

❺ DBG (debugging) indicator (green)
Used for manufacturing adjustments.

❻ HLT (CPU halt) indicator (red)
Lights when the CPU has been halted.

❼ to ⓮ Communication status indicators (green)
Show the communication status of equipment connected to the rear panel. These indicators alternately light and go out when data and commands are input over the relevant lines. The connectors and indicators are related as follows.

Indicator	Connector
❼ TER indicator	TERMINAL
❽ CON indicator	CONTROL PANEL
❾ EDA indicator	EDITOR A
❿ EDB indicator	EDITOR B
⓫ DME indicator	DME 1
⓬ AUX indicator	DME 2
⓭ MTX indicator	SERIAL TALLY
⓮ USR indicator	USER

⓯ ABORT (system abort) switch
Used for manufacturing adjustments.

⓰ RESET (system reset) switch
Initializes the system.

⓱ REF (reference signal) EXIST indicator (green/red)
Lights to indicate that a black burst (or equivalent) signal is input to the REF INPUT connector on the rear panel. Lights green when a standard signal is input, and lights red when a non-standard signal is input.
For the DVS-6000, the indicator lights green to show that the SC-H phase of an input reference signal is within the correct range (±20°). In this condition, phase reproduction of video signals output from the switcher is guaranteed.

- **525/625 switch (DVS-6000C only)**
  Switches between operating modes.
  525: 525 mode
  625: 625 mode

- **REF IN (reference input) switch (DVS-6000C only)**
  Switches reference signals input to the REF INPUT connector on the rear panel.
  B.B.: Black burst signal
  SYNC: Sync signal

⓲ +5 V test connector (red)
A connector for measuring the +5 V power supply for board slots 1 through 9. Use when readjusting the voltage.

⓳ +5 V (MON) test connector (red)
A connector for measuring the +5 V power supply for board slots 10 through 18. Use when readjusting the voltage.

⓴ –5 V test connector (blue)
A connector for measuring the –5 V power supply for the system as a whole. Use when readjusting the voltage.

㉑ GND (ground) test connector (black)
Use as a ground connector during voltage tess with connectors ❶ through ⓴.

1. OPERATION

㉒ D/A output connector
Digital signals input to the D/A input connector ㉔ are converted into analog signals and output from this connector. Use to adjust the circuits.

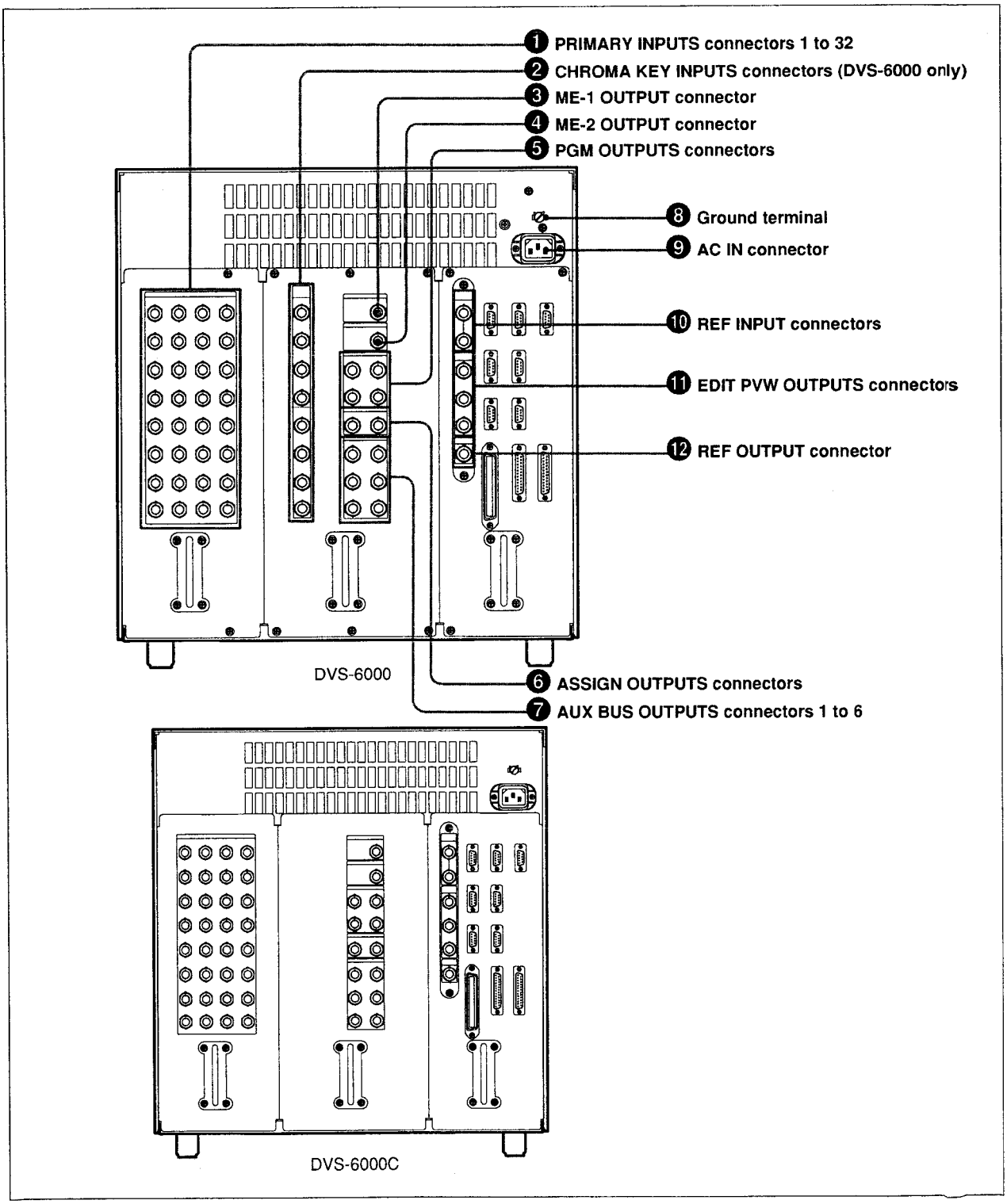
㉓ D/A phase control switch
Use to adjust the clock phase when converting digital signals input to the D/A input connector ㉔ into analog signals.

㉔ D/A input connector
Connect with a flexible cable to one of the digital TP connectors on other circuit boards, and input digital signals. The signals are converted to analog signals and output from the D/A output connector ㉒

㉕ TERMINAL connector
Connect a control terminal for use in maintenance and initial settings. This connector complies with RS-232C standard, and is connected in parallel with the TERMINAL connector on the rear panel.

1-2-2 Rear Panel

Input/output connectors


1 PRIMARY INPUTS connectors 1 to 32
2 CHROMA KEY INPUTS connectors (DVS-6000 only)
3 ME-1 OUTPUT connector
4 ME-2 OUTPUT connector
5 PGM OUTPUTS connectors
8 Ground terminal
9 AC IN connector
10 REF INPUT connectors
11 EDIT PVW OUTPUTS connectors
12 REF OUTPUT connector
DVS-6000
6 ASSIGN OUTPUTS connectors
7 AUX BUS OUTPUTS connectors 1 to 6
DVS-6000C

Input/output connectors

1. OPERATION

❶ PRIMARY INPUTS connectors 1 to 32 (BNC type)
Input serial digital video signals. You can input up to 32 channels after installing optional BKDS-8022 boards. With the DVS-6000, you can also input analog signals after installing the optional BKDS-8021 board.

❷ CHROMA KEY INPUTS connectors (BNC type) (DVS-6000 only)
When the optional BKDS-8030 board is installed, you can input an external clean chroma key source signal (and a sync signal) to these connectors. Input signals must be analog component signals (Y/B–Y/R–Y and SYNC, or G/B/R and SYNC). You can use either of the two input channels for background and use the other channel for foreground. (clean chroma key function).

❸ ME-1 OUTPUT connector (BNC type)
❹ ME-2 OUTPUT connector (BNC type)
Output the video created with the M/E-1 and M/E-2 blocks on the control panel as a serial digital or analog video signal. Connect program monitors to view the video presently being created.

❺ PGM (program) OUTPUTS connectors (BNC type)
Output the final (program) video created with the switcher as a serial digital or analog video signal. There are four connectors, which can be connected to program monitors, VTRs and so on.

❻ ASSIGN (assignable) OUTPUTS connectors (BNC type)
Assign any of PGM, DSK PVW, EDIT PVW, CHR KEY SOURCE 1 and CHR KEY SOURCE 2 outputs to these connectors using the SETUP menu on the control panel.

❼ AUX (auxiliary) BUS OUTPUTS connectors 1 to 6 (BNC type)
The switcher has 6 auxiliary buses (AUX 1 to 6) for output to DME and other external equipment. Signals from these buses are output from these connectors. Use the control panel to assign signals to the auxiliary buses.

❽ Ground terminal
Connect the system ground.

❾ AC IN (AC power input) connector
Use the supplied power cord to connect 100 to 120 V or 200 to 240 V AC power, using the supplied AC plug conversion adaptor if necessary. Before connecting the AC power, set the VOLTAGE SELECTOR inside the front panel to the appropriate position.

❿ REF (reference video) INPUT connectors (BNC type)
Input an analog reference video signal to synchronize the switcher with an external synchronization signal. The two connectors form a loop-through connection, allowing you to input a synchronization signal into either connector and output the same signal from the other connector. When not using loop-through output, always terminate the signal with the supplied 75Ω terminator. You can input the following kinds of reference video signals, depending upon the switcher model.
DVS-6000: Black burst signal
DVS-6000C: According to the setting of the REF IN switch on the SD-30 (or DA-72) board.
B.B.: Black burst signal
SYNC: Sync signal

For the location of the REF IN switch, refer to page 1-12 (E).

⓫ EDIT PVW (preview) OUTPUTS connectors (BNC type)
These are connectors for digital or analog signals output from the edit preview bus. The output signals differ depending upon the type of optional board in use.
BKDS-6060 Digital Edit PVW/REF Output Board: 3 channels of serial digital video signals
BKDS-6061 Analog Edit PVW/REF Output Board: 3 channels of analog composite signals
BKDS-6062 Analog Edit PVW/REF Output Board: 1 channel of analog Y/U/V signals

⓬ REF (reference video) OUTPUT connector (BNC type)

Outputs an analog reference video signal. You can adjust the phase of this reference signal within −1H/+3H with respect to the reference signal input to the REF INPUT connector ⓾ using the control panel.

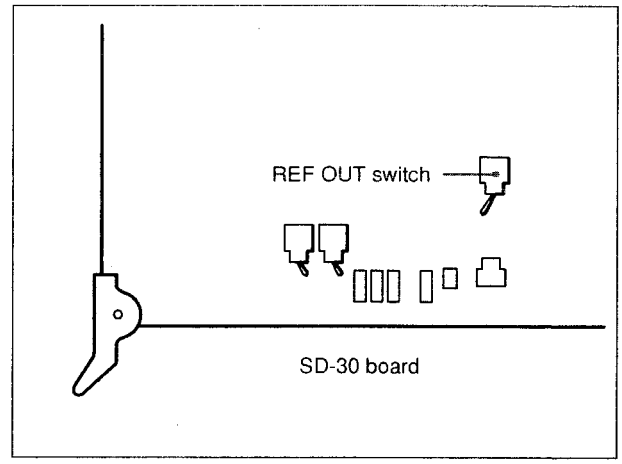
The output signals differ depending upon the switcher model.

DVS-6000: Black burst signal

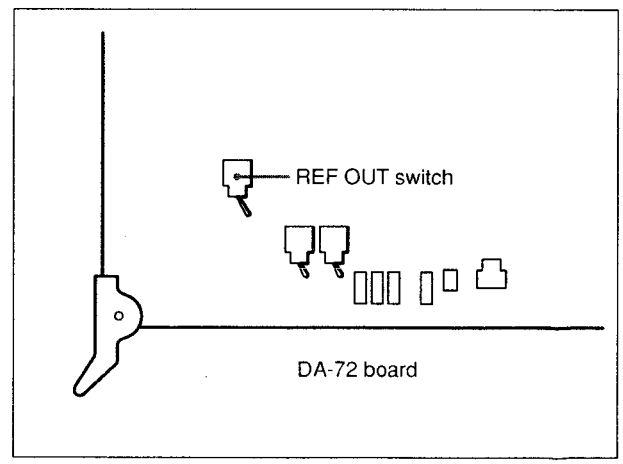
DVS-6000C: According to the setting of the REF OUT switch on the SD-30 (or DA-72) board.

B.B.: Black burst signal (only when in 525 mode)

SYNC: Sync signal



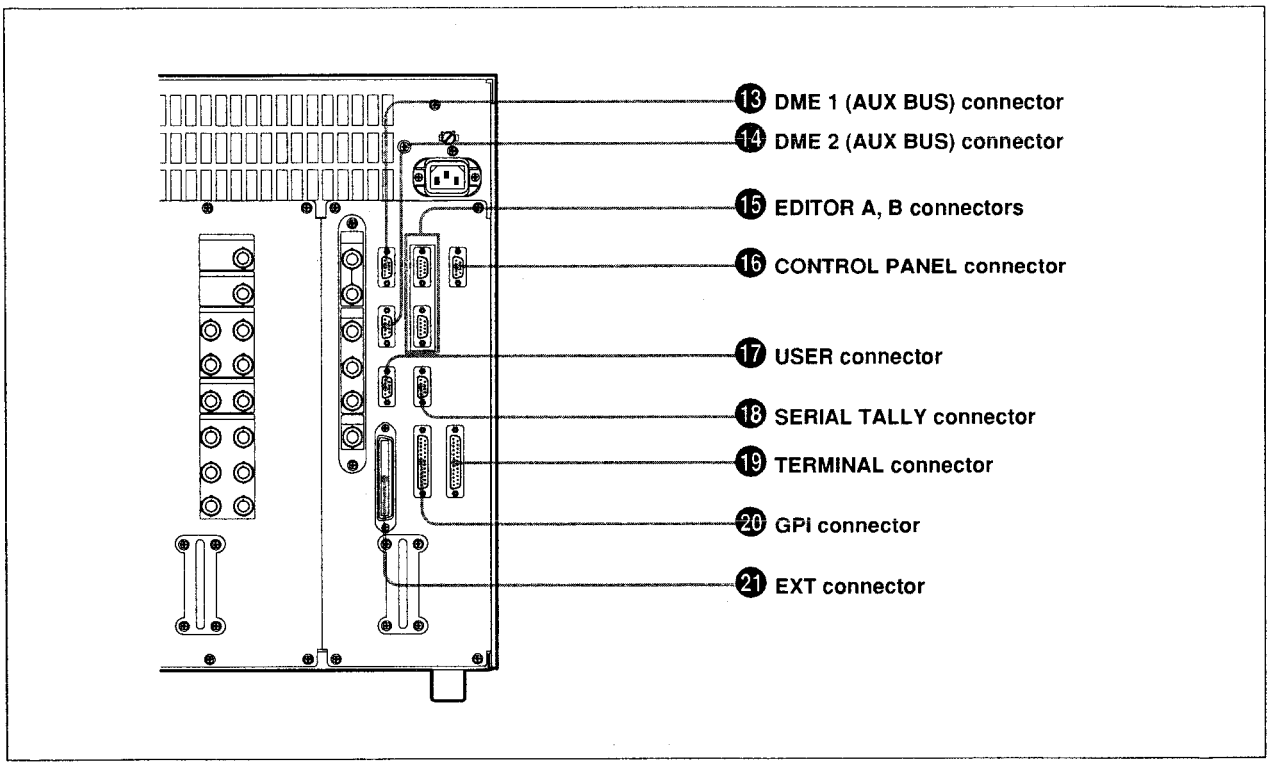
REF OUT switch



REF OUT switch

1. OPERATION

Interface connectors


⓭ DME 1 (AUX BUS) connector
⓮ DME 2 (AUX BUS) connector
⓯ EDITOR A, B connectors
⓰ CONTROL PANEL connector
⓱ USER connector
⓲ SERIAL TALLY connector
⓳ TERMINAL connector
⓴ GPI connector
㉑ EXT connector

Interface connectors

⓭ DME 1 (AUX BUS) (auxiliary bus) connector (D-sub 9-pin)
⓮ DME 2 (AUX BUS) (auxiliary bus) connector (D-sub 9-pin)
Connect to external equipment such as the DME-5000 Digital Multi Effect to control the auxiliary bus of the switcher from the external equipment.

⓯ EDITOR A,B connectors (D-sub 9-pin)
Connect to external equipment such as the BVE-9100 Editing Control System to control the switcher from the external equipment. Use the EDITOR A connector normally, and the EDITOR B connector for expanded functions.

⓰ CONTROL PANEL connector (D-sub 9-pin)
Connect equipment such as the BKDS-6010 Control Panel to operate the switcher from the control panel via the RS-422A interface.

⓱ USER connector (D-sub 9-pin)
Reserved for future system expansion. This complies with RS-422A.

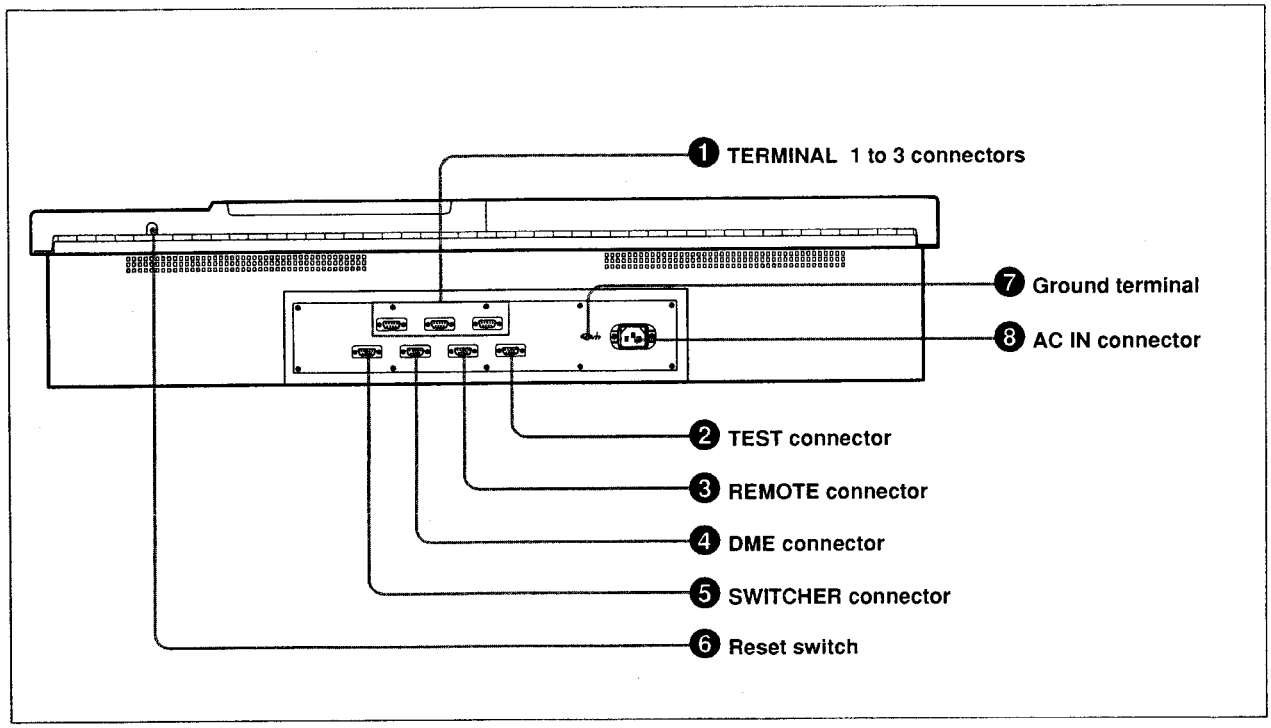
⓲ SERIAL TALLY connector (D-sub 9-pin)
Use to output tally information from the switcher to external equipment. This complies with RS-422A.

⓳ TERMINAL connector (D-sub 25-pin)
Connect a control terminal for use in maintenance and initial setting. This connector complies with RS-232C, and is connected in parallel with the 9-pin internal TERMINAL connector.

⓴ GPI (general purpose I/O) connector (D-sub 25-pin)
Connect to external equipment to input and output trigger signals. There are 8 input lines and 7 output lines. Conditions for input and output can be programmed.

㉑ EXT (extra) connector (Amphenol 50-pin)
Reserved for future system expansion.

1-2-3 BKDS-6010 Control Panel (optional) rear panel



BKDS-6010 control panel rear panel

1 TERMINAL 1 to 3 (control terminal) connectors (D-sub 9-pin)
Connect to a control terminal or other equipment as necessary for maintenance or future expansion. These comply with RS-232C.

2 TEST connector (D-sub 9-pin)
A connector for maintenance purposes.

3 REMOTE connector (D-sub 9-pin)
Connect to external equipment as necessary for future expansion. This complies with RS-422A.

4 DME (digital multi-effects) connector (D-sub 9-pin)
Connect via the RS-422A interface to equipment such as the DME-5000 Digital Multi Effect to control digital multi-effects from the control panel.

5 SWITCHER (switcher control) connector (D-sub 9-pin)
Connect via the RS-422A interface to the DVS-6000/6000C Digital Video Switcher to control the switcher.

6 Reset switch
Initializes the system.

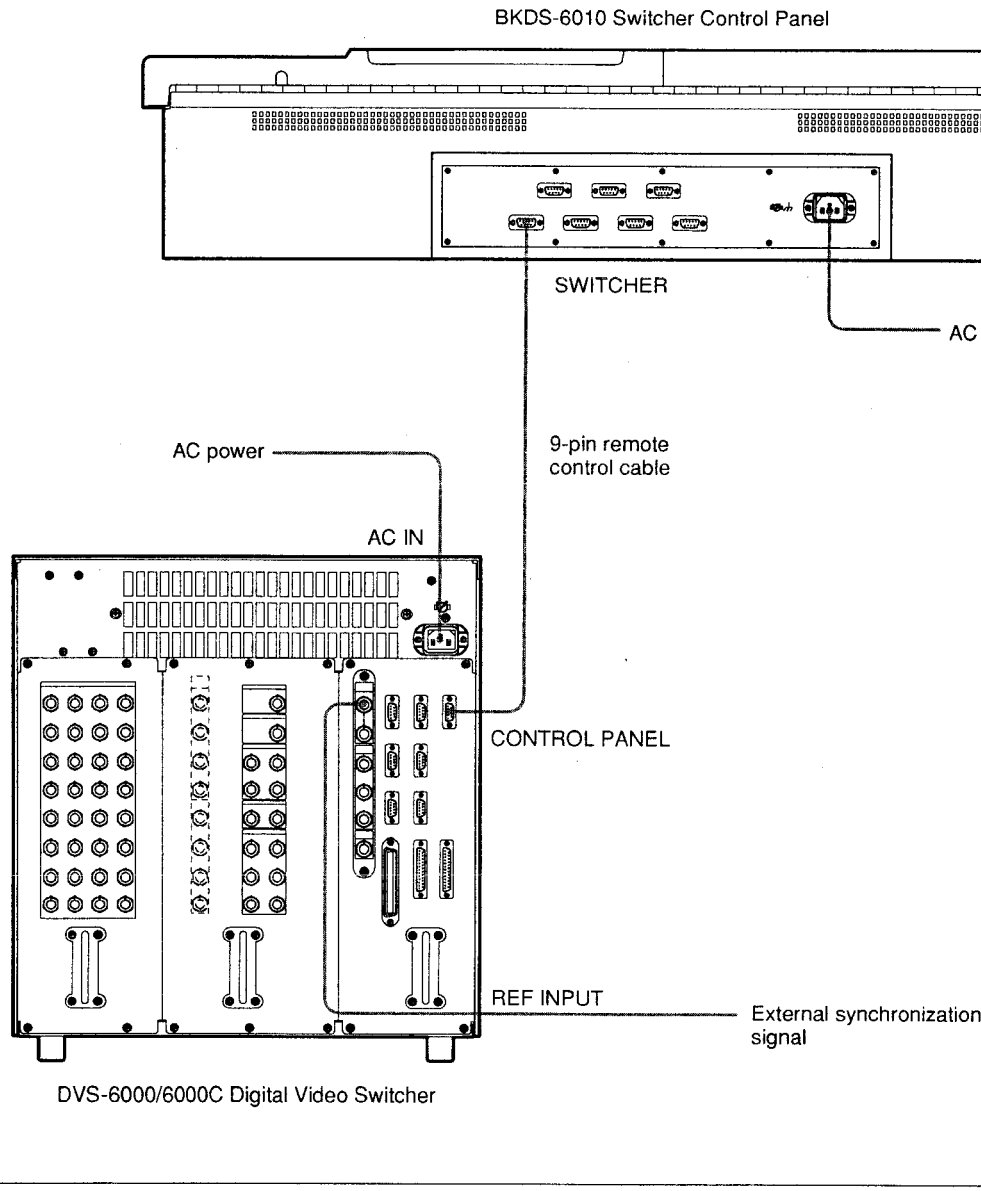
7 Ground terminal
Connect the system ground.

8 AC IN (AC power input) connector
Connect to AC power with the supplied power cord to connect power, using the supplied AC plug adaptor if necessary.

1. OPERATION

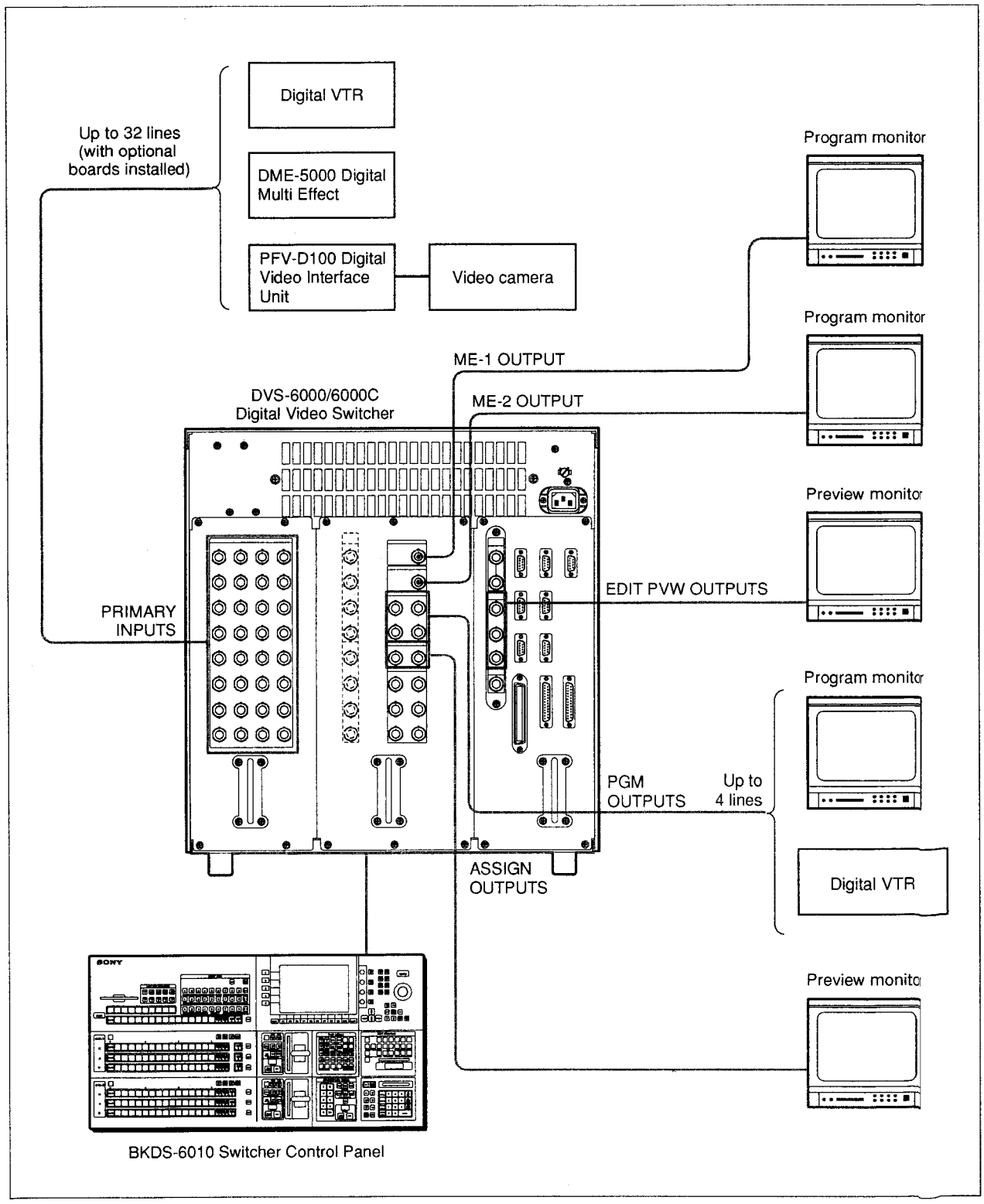
1-3 System Configuration Examples

1-3-1 Control Panel Connections



Control panel connections

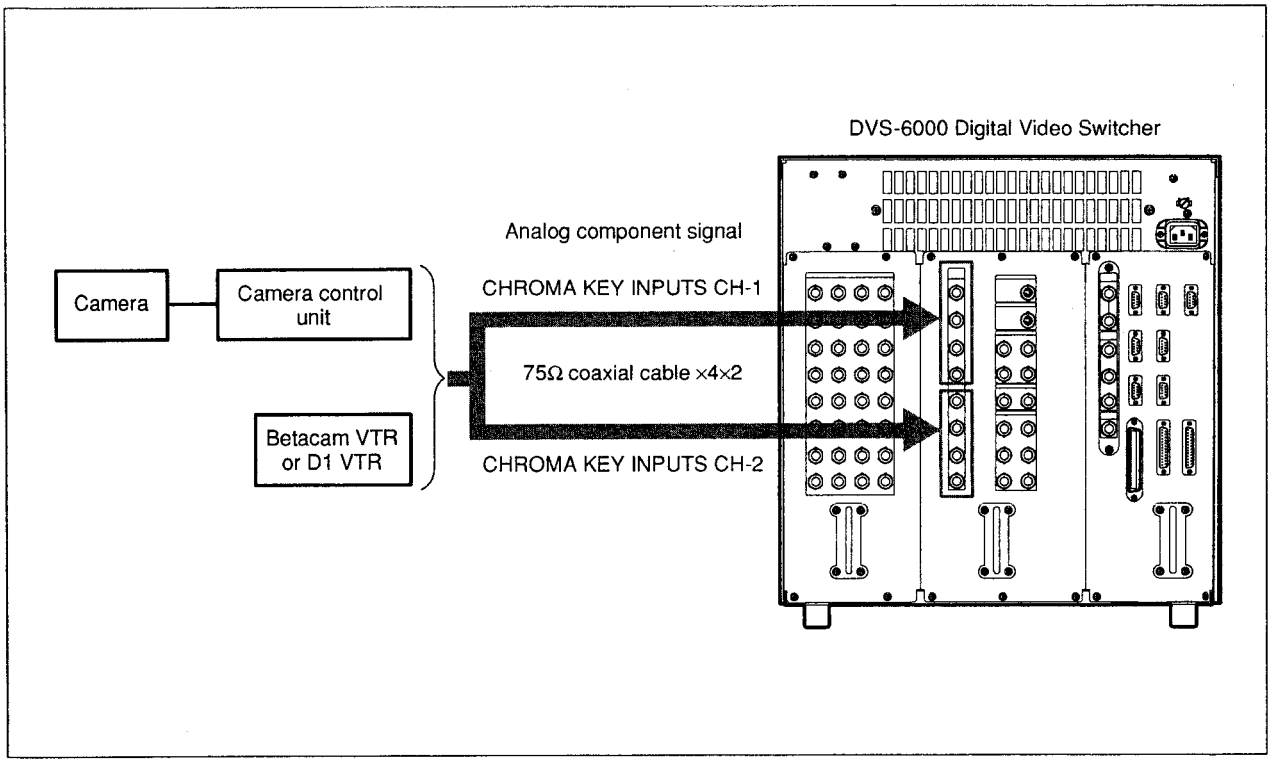
1-3-2 Primary Input and Video Monitor Connections



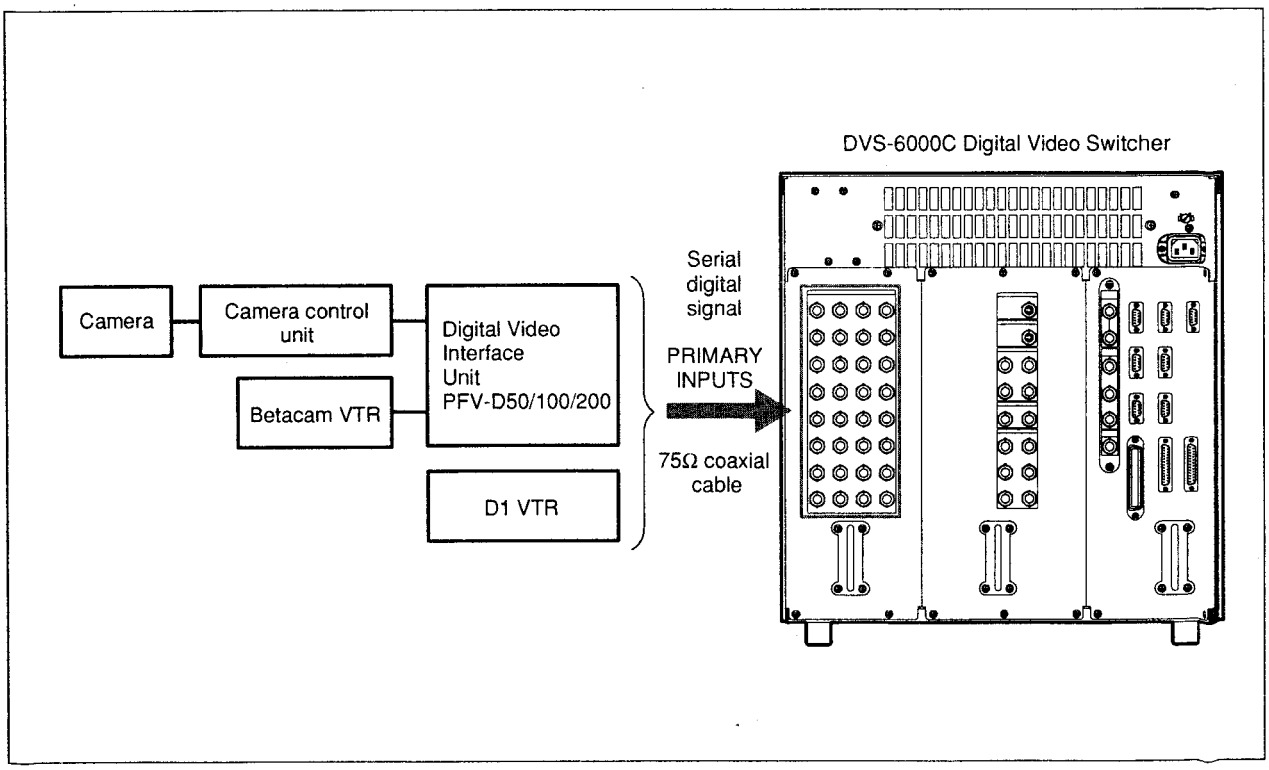
Primary input and video monitor connections

1. OPERATION

1-3-3 External Chroma Key Source Connections

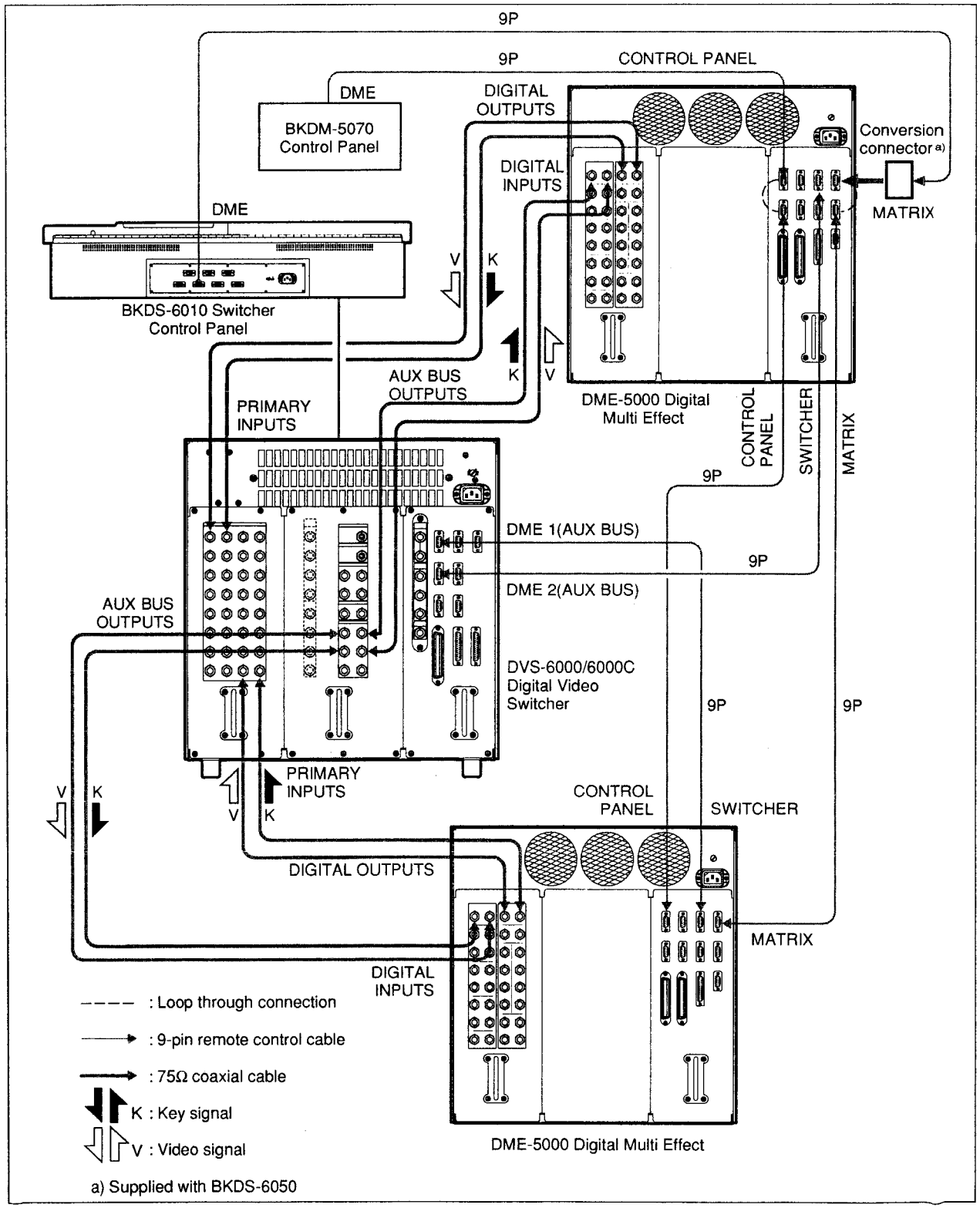


External chroma key source connections (DVS-6000)



External chroma key source connections (DVS-6000C)

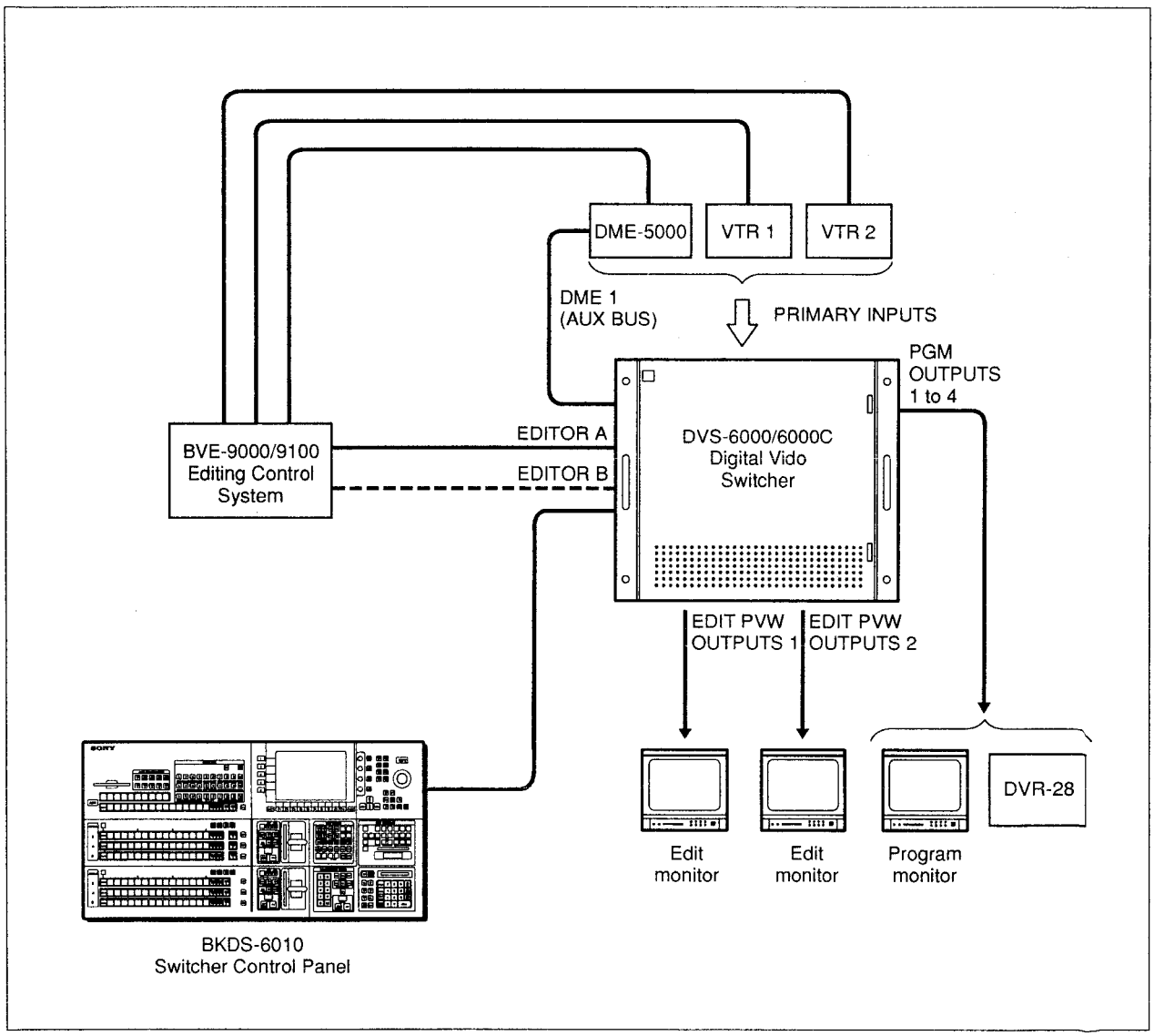
1-3-4 DME-5000 Digital Multi Effect Connections



DME-5000 digital multi effect connections

1. OPERATION

1-3-5 BVE-9100 Editing Control System Connections



BVE-9100 editing control system connections

For the configuration of options for the BVE-9000/9100, refer to the BVE-9000 Operation Manual and BVE-9100 Installation and Maintenance Manual Vol.1.

1-4 Specifications

1-4-1 DVS-6000/6000C Digital Video Switcher

General DVS-6000

Power requirements	100 to 120 V/200 to 240 V AC ±10%(switchable), 50/60 Hz
Current consumption	4.5 A/2.5 A maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	424 × 443 × 450 mm (16 3/4 × 17 1/2 × 17 3/4 inches) (w/h/d) (excluding projections)
Mass	50 kg (110 lb 4 oz)

Input/output connectors DVS-6000

PRIMARY INPUTS

When using BKDS-8022
- Serial digital video signal input, BNC (×32), 75Ω
- Level: 800 mV ±10%
- Return loss: 15 dB (5 to 270 MHz)

When using BKDS-8021
- Analog composite video signal input, BNC (×32), 75Ω
- Level: 0 ±3 dB
- SC-H phase: 0° ±30°

CHROMA KEY INPUTS

When using BKDS-8030
- Analog component signal input, BNC (×8), 75Ω
- Y/B–Y/R–Y (Betacam, SMPTE), SYNC or G/B/R SYNC
- Switchable between Y or G with SYNC input/external synchronization signal input
- Level: 0 ±3 dB

REF INPUT

Analog black burst signal or analog sync signal input, BNC (×2), 75Ω
- Loop-through configuration
- Level: 0 ±3 dB
- SC-H phase: 0° ±30°

ME-1 PGM OUTPUT

When using BKDS-6063
- Serial digital video signal output, BNC (×1), 75Ω
- Level: 800 mV ±10%
- Transmission rate: 143 Mbps

When using BKDS-6064
Analog composite video signal output, BNC (×1), 75Ω
Level: 0 ±3 dB

ME-2 PGM OUTPUT
When using BKDS-6063
Serial digital video signal output, BNC (×1), 75Ω
Level: 800 mV ±10%
Transmission rate: 143 Mbps
When using BKDS-6064
Analog composite video signal output, BNC (×1), 75Ω
Level: 0 ±3 dB

PGM OUTPUTS
When using BKDS-6063
Serial digital video signal output, BNC (×4), 75Ω
Level: 800 mV ±10%
Transmission rate: 143 Mbps
When using BKDS-6064
Analog composite video signal output, BNC (×4), 75Ω
Level: 0 ±3 dB

ASSIGN OUTPUTS
When using BKDS-6063
Serial digital video signal output, BNC (×2), 75Ω
Level: 800 mV ±10%
Transmission rate: 143 Mbps
When using BKDS-6064
Analog composite video signal output, BNC (×2), 75Ω
Level: 0 ±3 dB

AUX BUS OUTPUTS
When using BKDS-6063
Serial digital video signal output, BNC (×6), 75Ω
Level: 800 mV ±10%
Transmission rate: 143 Mbps
When using BKDS-6064
Analog composite video signal output, BNC (×6), 75Ω
Level: 0 ±3 dB

EDIT PVW OUTPUTS
When using BKDS-6060
Serial digital video signal output, BNC (×3),
75Ω
Level: 800 mV ±10%
Transmission rate: 143 Mbps
When using BKDS-6061
Analog composite video signal output, BNC (×3), 75Ω

	Level: 0 ±3 dB
REF OUTPUT	When using BKDS-6060/6061 Analog black burst signal output, BNC (×1), 75Ω Level: 0 ±3 dB
AC IN	AC power input, 3-pin A connector (×1)

1. OPERATION

General DVS-6000C

Power requirements	100 to 120 V/200 to 240 V AC ±10% (switchable), 50/60 Hz
Current consumption	5.7 A/3.2 A maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	424 × 443 × 450 mm (16 3/4 × 17 1/2 × 17 3/4 inches) (w/h/d) (excluding projections)
Mass	50 kg (110 lb 4 oz)

Input/output connectors DVS-6000C

PRIMARY INPUTS When using BKDS-8022
- Serial digital video signal input, BNC (×32), 75Ω
- Level: 800 mV ±10%
- Return loss: 15 dB (5 to 270 MHz)

REF INPUT Analog black burst signal or analog sync signal input, BNC (×2), 75Ω
- Loop-through configuration
- Level: 0 ±3 dB
- SC-H phase: 0° ±30°

ME-1 PGM OUTPUT
When using BKDS-6063
- Serial digital video signal output, BNC (×1), 75Ω
- Level: 800 mV ±10%
- Transmission rate: 270 Mbps

ME-2 PGM OUTPUT
When using BKDS-6063
- Serial digital video signal output, BNC (×1), 75Ω
- Level: 800 mV ±10%
- Transmission rate: 270 Mbps

PGM OUTPUTS When using BKDS-6063
- Serial digital video signal output, BNC (×4), 75Ω
- Level: 800 mV ±10%
- Transmission rate: 270 Mbps

ASSIGN OUTPUTS When using BKDS-6063
- Serial digital video signal output, BNC (×2), 75Ω
- Level: 800 mV ±10%
- Transmission rate: 270 Mbps

AUX BUS OUTPUTS
When using BKDS-6063
- Serial digital video signal output, BNC (×6), 75Ω
- Level: 800 mV ±10%
- Transmission rate: 270 Mbps

EDIT PVW OUTPUTS	
	When using BKDS-6060
	Serial digital video signal output, BNC (×3), 75Ω
	Level: 800 mV ±10%
	Transmission rate: 270 Mbps
	When using BKDS-6062
	Analog component signal output, BNC (×3), 75Ω
	Y/U/V level: 0 ±3 dB
REF OUTPUT	When using BKDS-6060/6062
	Analog black burst signal or analog sync signal output, BNC (×1), 75Ω
	Level: 0 ±3 dB
AC IN	AC power input, 3-pin AC connector (×1)

System phase

System phase adjustment range

–0.5 H to +1.0 H

Remote control signals

CONTROL PANEL	Complies with RS-422A standard, D-sub 9-pin
EDITOR A	Complies with RS-422A standard, D-sub 9-pin
EDITOR B	Complies with RS-422A standard, D-sub 9-pin
DME 1 (AUX BUS)	Complies with RS-422A standard, D-sub 9-pin
DME 2 (AUX BUS)	Complies with RS-422A standard, D-sub 9-pin
USER	Complies with RS-422A standard, D-sub 9-pin
SERIAL TALLY	Complies with RS-422A standard, D-sub 9-pin
TERMINAL	Complies with RS-232C standard, D-sub 25-pin
GPI	TTL input (×8)
	Relay contact output (30 V AC/DC maximum, 0.1A[a]) × 7
	D-sub 25-pin
EXT	Amphenol 50-pin

a) for resistive load

Accessories

Rack mounting angles (installed on the switcher) (1 set)
Power cord (1)
AC plug conversion adaptor (1)
Plug holder (1)
75Ω terminator (1)
Installation and Maintenance Manual Part 1 (1)

Related equipment

DME-5000/9000 Digital Multi Effect
BKDM-5070 Control Panel for DME-5000
BKDM-9010 Controller System for DME-9000
BVE-9000/9100 Editing Control System

1. OPERATION

1-4-2 BKDS-6010 Switcher Control Panel

General

Power requirements	100 to 240 V AC ±10%, 50/60 Hz
Current consumption	0.5 to 1A
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed) –20°C to +60°C (–4°F to +140°F) (storage)
Dimensions	950 × 184 × 486 mm (37 1/2 × 7 1/4 × 19 1/4 inches) (w/h/d) (excluding projections)
Mass	20 kg (44 lb 1 oz)

Input/output connectors

SWITCHER	Complies with RS-422A standard, D-sub 9-pin
DME	Complies with RS-422A standard, D-sub 9-pin
REMOTE	Complies with RS-422A standard, D-sub 9-pin
TEST	Complies with RS-422A standard, D-sub 9-pin
TERMINAL 1	Complies with RS-232C standard, D-sub 9-pin
TERMINAL 2	Complies with RS-232C standard, D-sub 9-pin
TERMINAL 3	Complies with RS-232C standard, D-sub 9-pin

Accessories

Power cord (1)
AC plug conversion adaptor (1)
Plug holder (1)
Switch chip (1 set)
Installation and Maintenance Guide (1)

1-4-3 BKDS-8021 Analog Input Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	35 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 380 mm (12 1/8 × 13/16 × 15 inches) (w/h/d) (excluding projections)
Mass	1.3 kg (2 lb 14 oz)

Input

Input signal	Analog composite video signal VBS: 1 Vp-p, 75Ω
Number of inputs	8 channels
Operation level range	±3 dB

A/D conversion characteristics

Number of conversion bits	10
Sampling frequency	14.32 MHz (4 *fsc*)
Frequency characteristics	50 Hz to 5 MHz: ±0.5 dB maximum 5 MHz to 6 MHz: +0.5/–3 dB maximum 6 MHz or higher: aperture characteristics
Linearity	1% DG maximum, 1° DP maximum (excluding quantization error)

Others

TBC window	1 Hp-p (independent for each input)
Clamp method	Analog clamp and digital correction
Sampling phase	I.Q shaft, selectable from BKDS-6010 Control Panel

1. OPERATION

1-4-4 BKDS-8022 Digital Input Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	35 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 380 mm (12 1/8 × 13/16 × 15 inches) (w/h/d) (excluding projections)
Mass	1.5 kg (3 lb 5 oz)

Input

Input signal	Serial digital signal Level: 800 mV ±10%
Number of inputs	8 channels

1-4-5 BKDS-8030 Clean Chroma Key Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	35 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 380 mm (12 1/8 × 13/16 × 15 inches) (w/h/d) (excluding projections)
Mass	1.5 kg (3 lb 5 oz)

Input

Input connectors	CHROMA KEY INPUTS, BNC (×8)
Input signal	Analog component signal (selectable from one of the signals below) Y + SYNC/B–Y/R–Y (Betacam level) Y + SYNC/B–Y/R–Y (SMPTE level) Y/B–Y/R–Y and SYNC (Betacam level) Y/B–Y/R–Y and SYNC (SMPTE level) G + SYNC/B/R G/B/R and SYNC Level: 0 ±3 dB

Others

Method	RGB (Y/U/V) chroma key or clean chroma key

1-4-6 BKDS-8031 Clean Chroma Key Board

General

Power requirements	5 V DC ±0.2 V
Power consumption	35 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 380 mm (12 1/8 × 13/16 × 15 inches) (w/h/d) (excluding projections)
Mass	1.5 kg (3 lb 5 oz)

Input

Selectable from primary inputs

1-4-7 BKDS-8040 Frame Memory Board

General

Power requirements	5 V DC ±0.2 V
Power consumption	35 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 380 mm (12 1/8 × 13/16 × 15 inches) (w/h/d) (excluding projections)
Mass	1.5 kg (3 lb 5 oz)

Others

Memory capacity	2 frames × 2 channels

1-4-8 BKDS-8041 Frame Memory Board

General

Power requirements	5 V DC ±0.2 V
Power consumption	35 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 380 mm (12 1/8 × 13/16 × 15 inches) (w/h/d) (excluding projections)
Mass	1.5 kg (3 lb 5 oz)

Others

Memory capacity	1 frame × 2 channels

1. OPERATION

1-4-9 BKDS-6050 Key Frame Control Panel

General

Power requirements	5 V DC ±0.2 V, 12 V DC ±0.5 V
Power consumption	5 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	Key frame control panel 150 × 30 × 115 mm (6 × 1 3/16 × 4 5/8 inches) (w/h/d) (excluding projections) IF-418 board 145 × 22 × 104 mm (5 3/4 × 7/8 × 4 1/8 inches) (w/h/d)(excluding projections)
Mass	Key frame control panel 500 g (1 lb 2 oz) IF-418 board 100g (4 oz)

Contents

Key frame control panel for BKDS-6010
IF-418 board
CPU, co-processor and crystal oscillator for DVS-6000/6000C
9-pin conversion connector

1-4-10 BKDS-6060 Digital Edit PVW/REF Output Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	8 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 190 mm (12 1/8 × 13/16 × 7 1/2 inches) (w/h/d) (excluding projections)
Mass	350 g (12 oz)

Output

Output signal

D2 or D1 serial digital signal
Level: 800 mV ±10%
Transmission rate: 270 Mbps
Number of outputs: 3 channels

Analog reference signal
Black burst (with DVS-6000/6000C in 525 mode)
Level: sync 40 ±4 IRE
burst 40 ±4 IRE
setup 0 IRE

or sync (when using DVS-6000C)
Level: sync 2 V ±20 mV

1-4-11 BKDS-6061 Analog Edit PVW/REF Output Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	5 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 190 mm (12 1/8 × 13/16 × 7 1/2 inches) (w/h/d) (excluding projections)
Mass	350 g (12 oz)

Output

Output signal

Analog composite signal
- Level: 0 ±3 dB
- Video bandwidth: flat to 5.5 MHz ±0.5 dB
- DG: 1%
- DP: 1°

Analog reference signal
- Black burst
- Level: sync 40 ±4 IRE
  burst 40 ±4 IRE
  setup 0 IRE

1-4-12 BKDS-6062 Analog Edit PVW/REF Output Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	6W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 190 mm (12 1/8 × 13/16 × 7 1/2 inches) (w/h/d) (excluding projections)
Mass	0.4 kg (14 oz)

Output

Output signal

Analog component signal (Y/B–Y/R–Y)
- Video bandwidth:
  flat to 5.0 MHz ±0.5 dB (Y)
  flat to 2.0 MHz ±0.5 dB (B-Y, R-Y)

1. OPERATION

Analog reference signal
Black burst (only with DVS-6000C in 525 mode)
Level: sync 40 ±4 IRE
burst 40 ±4 IRE
setup 0 IRE
or sync
Level: sync 2 V ±20 mV

1-4-13 BKDS-6063 Digital Output Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	2 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	140 × 20 × 35 mm (5 5/8 × 13/16 × 1 7/16 inches) (w/h/d) (excluding projections)
Mass	0.1 kg (4 oz)

Output

Output signal	Serial digital signal Level: 800 mV ±10% Transmission rate: 270 Mbps

1-4-14 BKDS-6064 Analog Output Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	2 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	140 × 20 × 35 mm (5 5/8 × 13/16 × 1 7/16 inches) (w/h/d) (excluding projections)
Mass	0.1 kg (4 oz)

Output

Output signal	Analog composite signal Level: 0 ±3 dB Video bandwidth: flat to 5.5 MHz ±0.5 dB DG: 1% DP: 1°

1-4-15 BKDS-6070 Enhanced Wipe Generator Board

General

Power requirements	±5 V DC ±0.2 V
Power consumption	2.5 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 145 mm (12 1/8 × 13/16 × 5 3/4 inches) (w/h/d) (excluding projections)
Mass	0.2 kg (7 oz)

Others

Available wipe patterns

Heart, star, rotary, matrix, diamond dust and others

1-4-16 BKDS-6071 Key Border Generator Board

General

Power requirements	5 V DC ±0.2 V
Power consumption	2.5 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 70 mm (12 1/8 × 13/16 × 2 7/8 inches) (w/h/d) (excluding projections)
Mass	150 g (5 oz)

Others

Functions	Border, shadow, drop shadow, outline (1 to 4 H/1 to 8 H)

1. OPERATION

1-4-17 BKDS-6072 BKGD Color Mix Generator Board

General

Power requirements	5 V DC ±0.2 V
Power consumption	1 W maximum
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 20 × 70 mm (12 1/8 × 13/16 × 2 7/8 inches) (w/h/d) (excluding projections)
Mass	150 g (5 oz)

Others

2 channels of wash generator outputs

1-4-18 BKDS-6073 M/E PVW/Key Out Option

General

Contents	Two kinds of ICs for process (total four pieces)

Output

Output signals	ME1 PVW OUT or KEY OUT ME2 PVW OUT or KEY OUT
Output connectors	ASSIGN OUT or AUX1 through AUX6 or EDIT PVW OUT

1-4-19 BKDS-6074 M/E PVW/Key Out Option

General

Contents	Two kinds of ICs for process (total eight pieces)

Output

Output signals	ME1 PVW OUT or KEY OUT ME2 PVW OUT or KEY OUT
Output connectors	ASSIGN OUT or AUX1 through AUX6 or EDIT PVW OUT

1-4-20 BKDS-6090 Spare Power Supply Unit

General

Power requirements	Primary side: 100 to 120 V/200 to 240 V AC ±10%, 50/60 Hz Secondary side: +5 V DC ±0.2 V (27 A maximum × 2) −5 V DC ±0.2 V (27 A maximum × 1)
Temperature range	5°C to 40°C (41°F to 104°F) (operation guaranteed) 10°C to 35°C (50°F to 95°F) (performance guaranteed)
Dimensions	305 × 105 × 390 mm (12 1/8 × 4 1/4 × 15 3/8 inches) (w/h/d) (excluding projections)
Mass	6.5 kg (14 lb 5 oz)

Others

Output signal	3 lines of fan motor rotation sensor outputs (open collector) Thermistor output for temperature sensor

Design and specifications are subject to change without notice.

SECTION 2
INSTALLATION

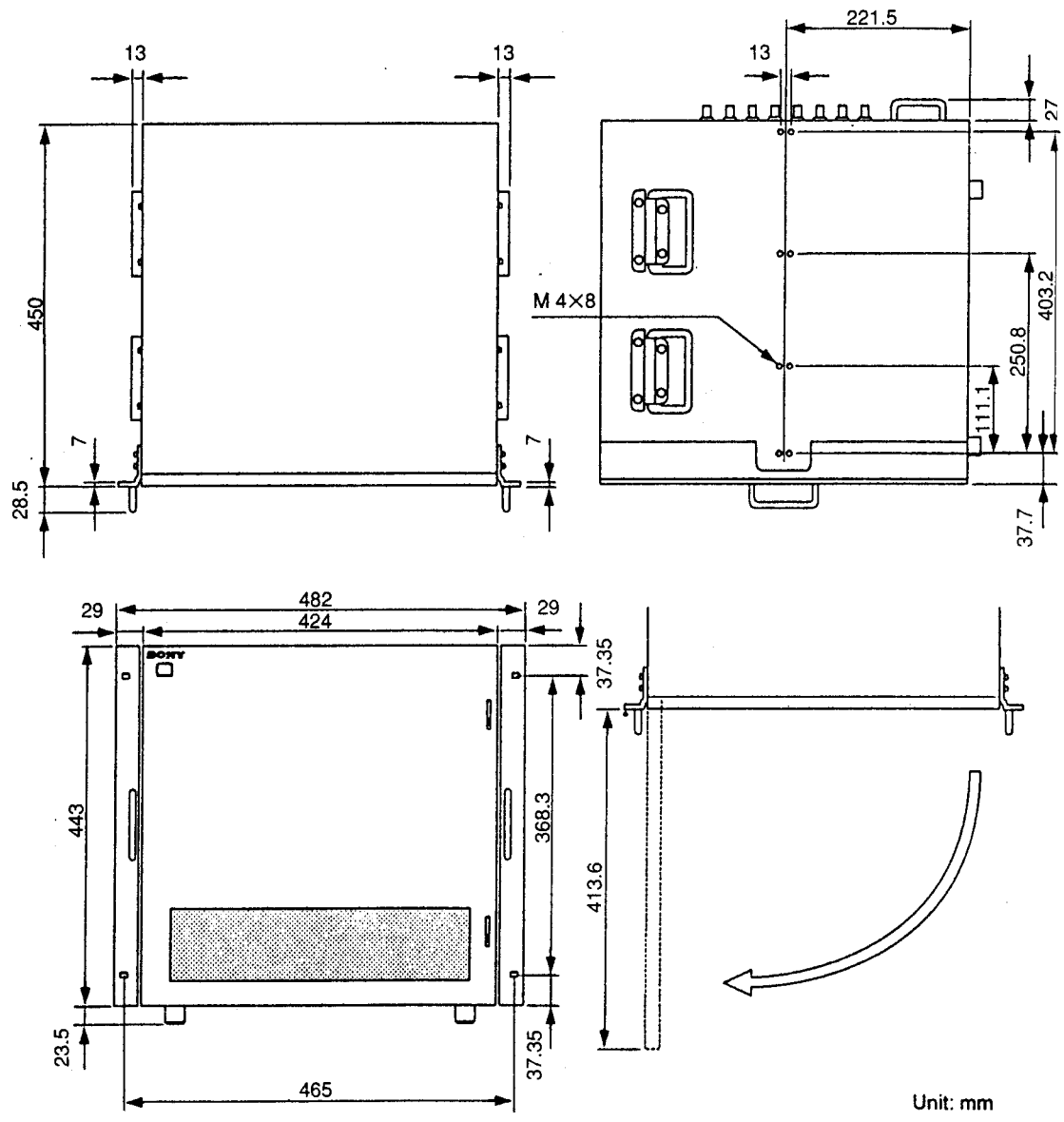
2-1. OPERATING ENVIRONMENT

- Install the set in a well ventilated place to prevent a temperature rise in the set. Never cover the ventilation holes of the outer frame.
- Never install the set near a heat source because the environmental temperature during operation should be 5°C to 40°C.

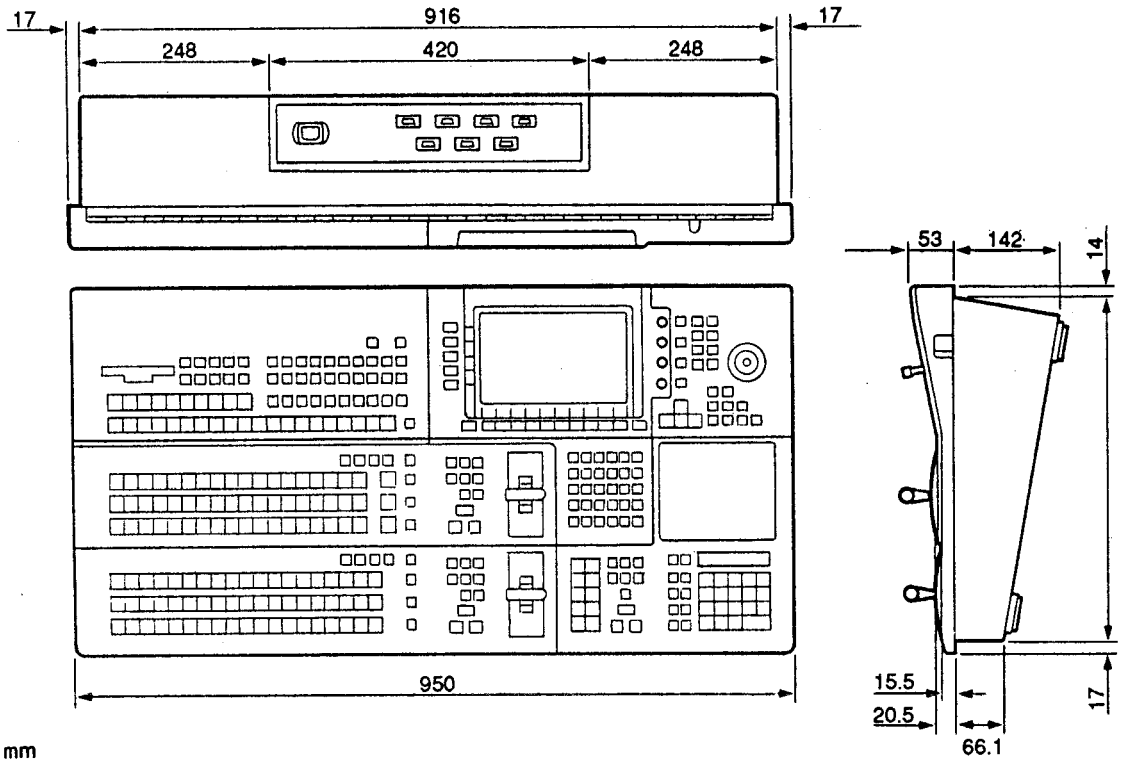
2-2. EXTERNAL DIMENSIONS

- The external dimentions of the set are shown in the following drawing.
- For purposes of serviceability, install DVS-6000/6000C at least 20 cm away from a wall.

1. DVS-6000/6000C



2. BKDS-6010



Unit: mm

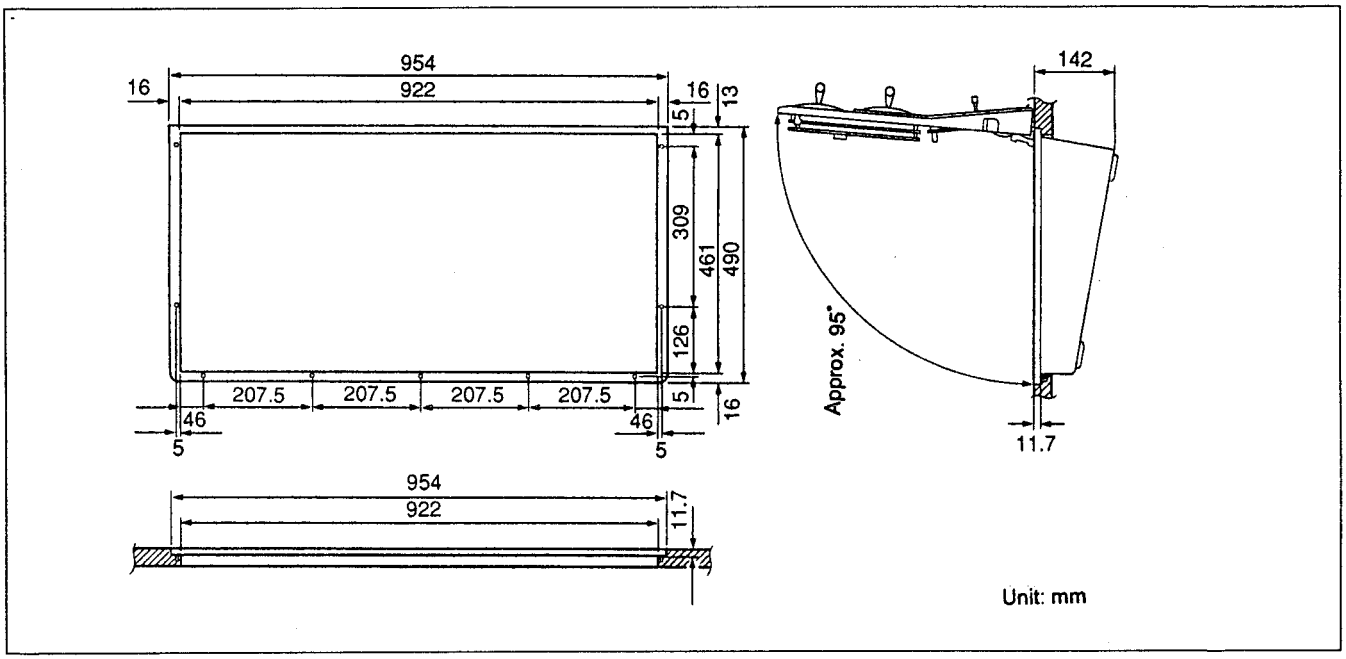
2-3. SUPPLY VOLTAGE

- A switching regulator designed for 90 V ac to 132 V ac and 180 V ac to 264 V ac is used for the power supply unit of DVS-6000/6000C. The value (90 V ac to 132 C ac, 180 V ac to 264 V ac) can be changed at the voltage selector of the front panel. Before turning the power ON of the unit, check that the voltage selector setting is correct.
- For BKDV-6010, the switching regulator designed for world wide type. Therefore, the supply voltage does not have to be changed if it is within the range of 90 V ac to 264 V ac.

2-4. INSTALLATION (BKDS-6010)

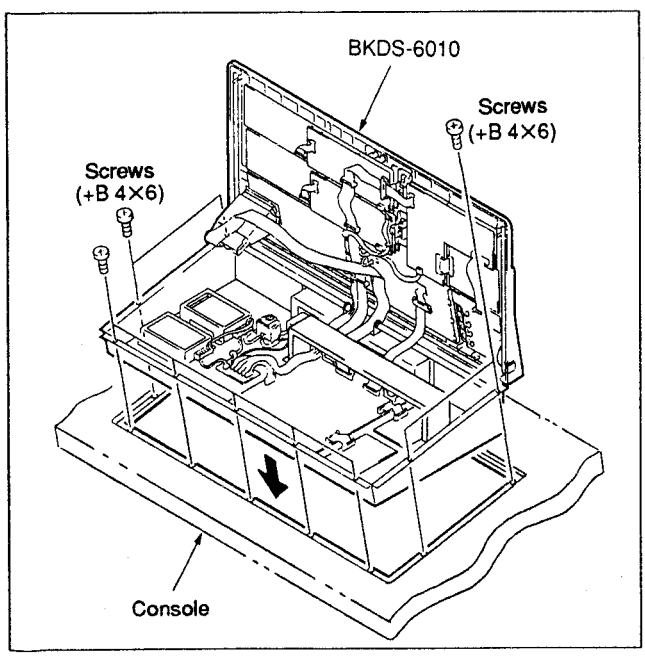
2-4-1. Installation Space

The unit can be installed in the console by drilling holes in the console in the locations specified below and then fastening the unit in the console using nine screws at these locations.

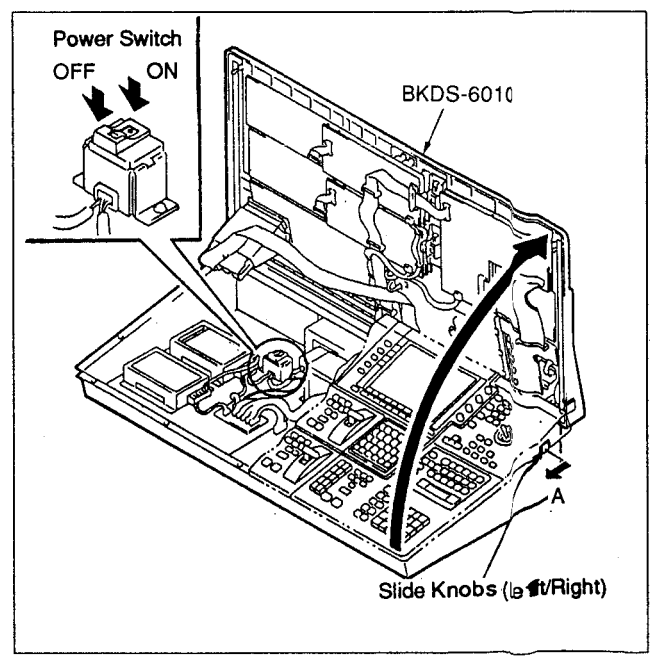


2-4-2. How to Install the Unit

- BKDS-6010
  Put the unit in the console and then fasten with nine screws (+B 4×6) as required.



- Power Switch Operation
  ① Remove the front panel upward, after releasing the slide knobs of the each side at the front panel in the direction of the arrow A.
  ② Turn the power switch to ON or OFF as required.



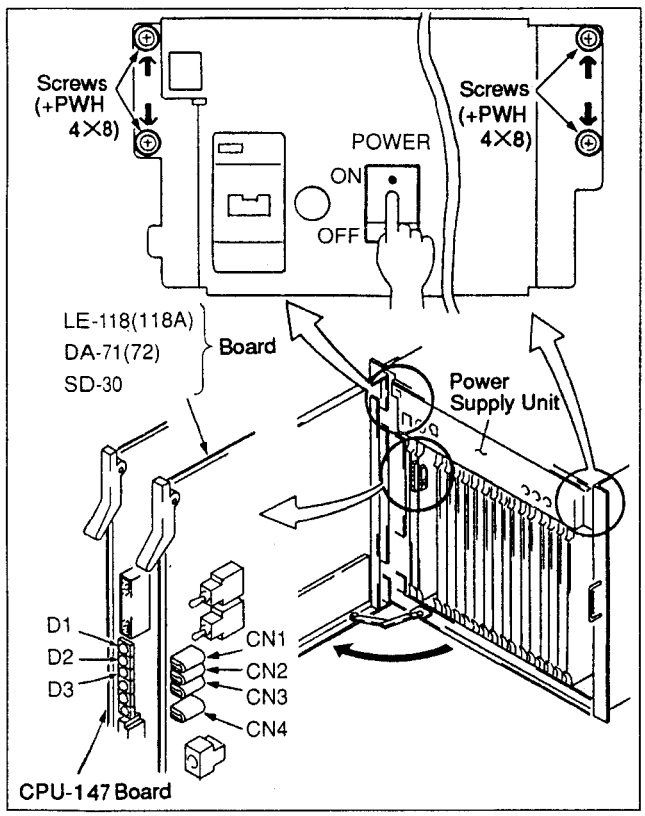
2-5. CONFIRMATION AND ADJUSTMENT AT INSTALLTION (DVS-6000/6000C)

2-5-1. Supply Voltage Setting

After installing the set, check the supply voltage in the set using the following procedure.

(1) Open the front panel and make sure that the power supply unit is correctly inserted and held by 4 screws (+PWH 4×8) as indicated by the arrows on the front panel of the unit.

(2) Turn the power switch ON, and make sure that all the power indicators (D1, D2, D3) of the CPU-147 board light up.

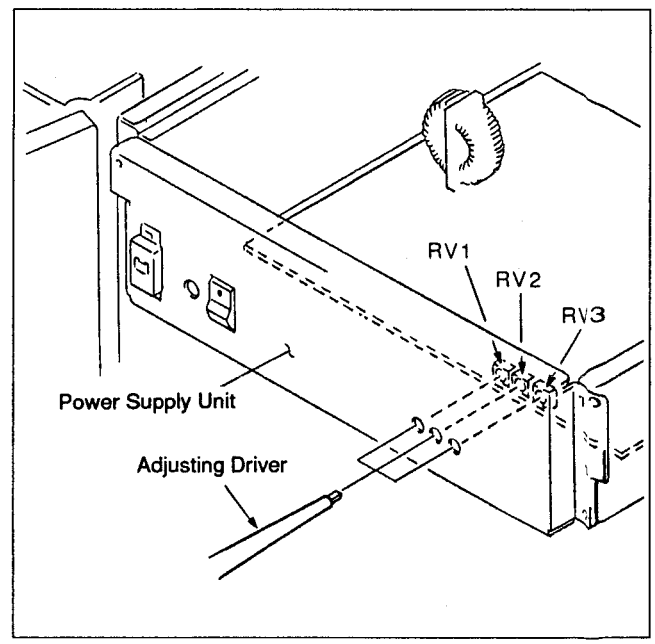


(3) Connect digital voltmeters to ±5 V test terminals (CN1, CN2, CN3) and GND test terminal (CN4) of the LE-118 (118A) board, DA-71 (72) board or SD-30 board. Check that the voltage value of each test terminal complies with the standards in the following table.

Note: The board shown by ( ) mark is used in DVS-6000C.

Measured terminal	Purpose	Specifications	VR requiring adjustment
CN1 (+5 V) ⇔CN4 (GND)	Measurement of DC voltage +5 V (A) of slots No. 1 to 9	+5.10 ±0.02 V	RV1
CN2 (+5 V) ⇔CN4 (GND)	Measurement of DC voltage +5 V (B) of slot No. 10 to 18	+5.10 ±0.02 V	RV2
CN3 (−5 V) ⇔CN4 (GND)	Measurement of DC voltage −5 V of all slots	−5.10 ±0.02 V	RV3

- If the measured voltage value fails to comply with the standards, adjust the voltage using the following procedure.
  (Leave the digital voltmeters connected to the test terminals during adjustment.).
  ① Insert an adjusting driver into the adjusting window of the unit, and turn the voltage control VR requiring adjustment.
  ② Adjust it until obtaining an adequate voltage value on the digital voltmeter.



Note:

1. Set the supply voltage after inserting all the card boards (including th option boards).
2. Be sure to check the supply voltage again after replacing a card board.
3. If you purchased the optional spare power supply unit BKDS-6090, you are advised to set its supply voltage in advance so that you can use the optional spare power supply unit immediately in case of emergency.
4. Make sure that the combinations of the voltage control VRs and the test terminals are correct.

2-5-2. Installation of Card Boards

- Each card circuit board must be installed in the corresponding slot of DVS-6000/6000C.
  Make sure that all the boards are in the specified slots by referring to the following table.

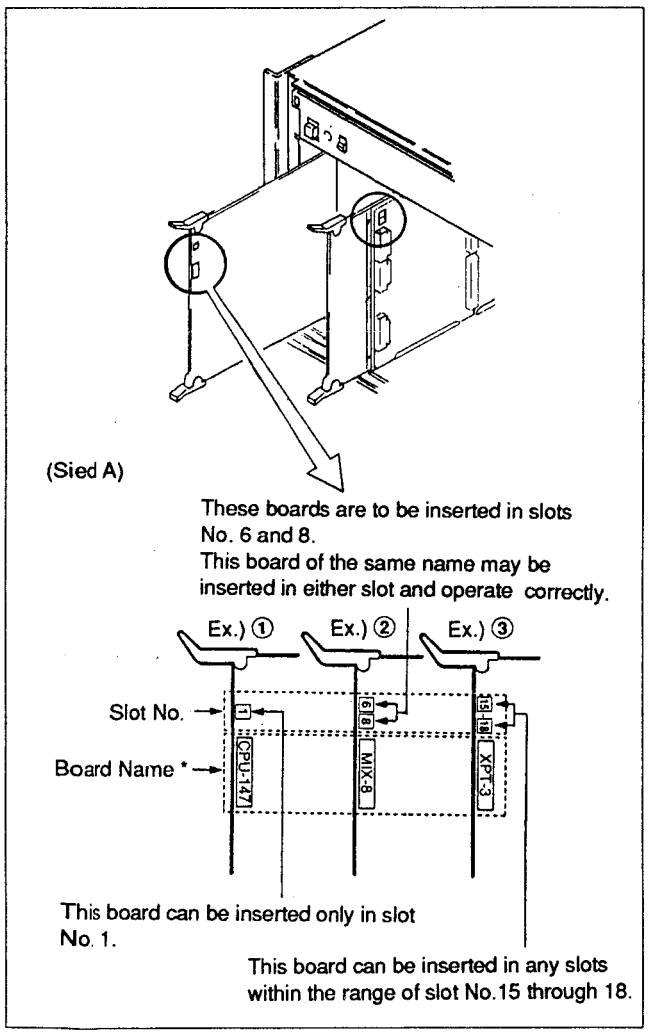
Note:

1. The board shown by ( ) mark is used in DVS-6000C. The board without ( ) mark is used in both DVS-6000 and DVS-6000C.
2. The board shown by * mark is not used in DVS-6000C.

Slot No.	Standard board	Option board
1	CPU-147	Not used
2	SG-210 (SG-211) LE-118 (LE-118A)	SD-30 or DA-71 (DA-72)
3	Spare	
4	WKG-10	WP-37
5, 7	KPC-5	BD-22
6, 8	MIX-8 (MIX-8A)	Not used
9	DSK-9 (DSK-9A)	Not used
10	OUT-3	SD-31 or DA-73
11		CRK-5 (CRK-4)
12		ADC-5 (CRK-4)
13	MAT-4	MT-90
14		MY-50
15 — 18		XPT-3 or *ADC-9

- The board name and the corresponding slot No. are indicated at the top of the door side on both the sides A and B of a board.
  The position indicating board name may be different, with option board and without option board.
  Also, the indicated board name may be different.

  ex.) In the case of Slot No. 5, 7
  With option board: BD-22 is indicated.
  Without option board: Only slot No. is indicated.


(Sied A)
These boards are to be inserted in slots No. 6 and 8.
This board of the same name may be inserted in either slot and operate correctly.
Ex.) ①
Ex.) ②
Ex.) ③
Slot No.
Board Name *
CPU-147
MIX-8
XPT-3
This board can be inserted only in slot No. 1.
This board can be inserted in any slots within the range of slot No.15 through 18.

- DVS-6000/6000C can be used for various systems, and its functions can be extended by selecting the option boards. Install each option board in the specified range of slots and in the specified sequence according to the slot No. indication at the top part of the door side.

Note:

1. Make sure that the connector of each board is tightly inserted into the unit.
2. A wrong installation sequence will result in a system error and disable operations.
3. Be sure to check the supply voltage after adding an option board.

2-5-3. Installation of Option Board

DVS-6000/6000C have the following option boards.
In this section, the installations of option board for only used in DVS-6000/6000C are described.
For the option boards used in both DVS-6000/6000C and DVS-8000/8000C, refer to Operation and Maintenance Manual supplied with the option board.

Only for DVS-6000/6000C

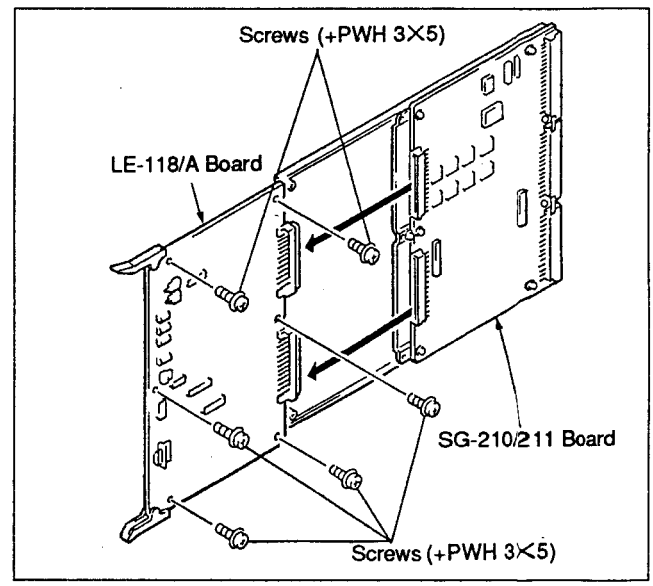
(1) BKDS-6060 (SD-30 board)
/BKDS-6061 (DA-71 board): For DVS-6000
/BKDS-6062 (DA-72 board): For DVS-6000C
(2) BKDS-6063 (SD-31 board)
/BKDS-6064 (DA-73 board): For DVS-6000
(3) BKDS-6070 (WP-37 board)
(4) BKDS-6071 (BD-22 board)
(5) BKDS-6072 (MT-90 board)
(6) BKDS-8022 (XPT-3 board)
* BKDS-8022 board can be also used for DVS-8000/8000C.
(7) BKDS-6050 (IF-418, LE-115 and KY-244 boards)
(8) BKDS-6073/6074

Both for DVS-6000/6000C and DVS-8000/8000C

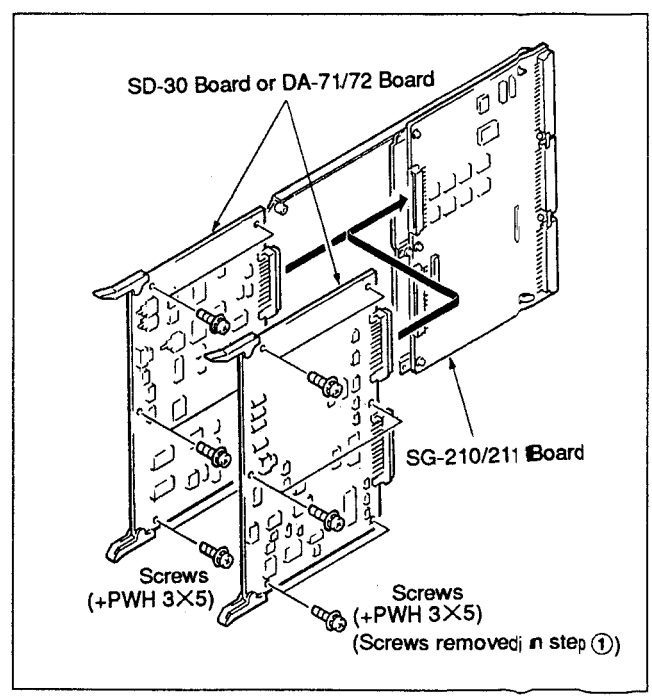
BKDS-8021 (ADC-9 board) BKDS-8030 (ADC-5 and CRK-5 boards) BKDS-8040 (MY-50 board)	For DVS-6000/8000
BKDS-8031 (CRK-4 board×2) BKDS-8041 (MY-51 board)	For DVS-6000C/8000C

(1) BKDS-6060(SD-30 board)
/BKDS-6061(DA-71 board): For DVS-6000
/BKDS-6062(DA-72 board): For DVS-6000C
[Standard Board: SG-210(*211)/LE-118(*118A)
– Slot No. 2]
The board name with * mark is used for DVS-6000C.

① Remove the six screws (+PWH 3×5) securing the LE-118 (*118A) board.
② Disconnect the connector on the LE-118 (*118A) board, connecting to the SG-210 (*211) board.

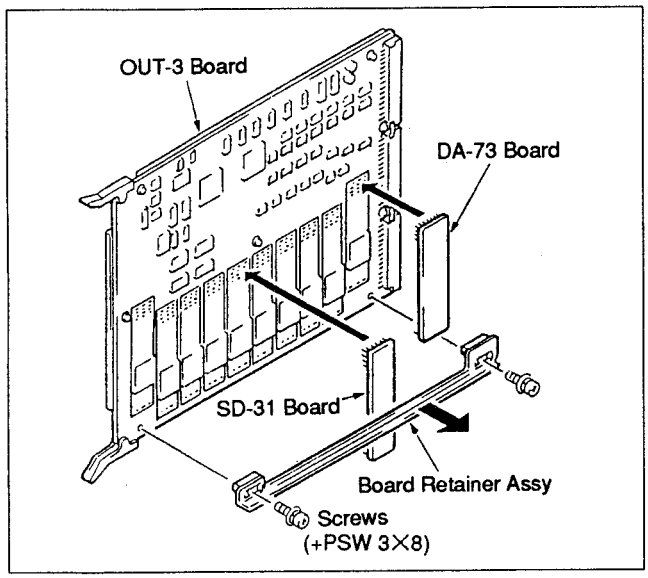


③ Connect the connector on the SD-30 board or the DA-71 (*72) board to the SG-210 (*211) board.
④ Lock the SD-30 board or the DA-71 (*72) board by the six screws (+PWH 3×5).



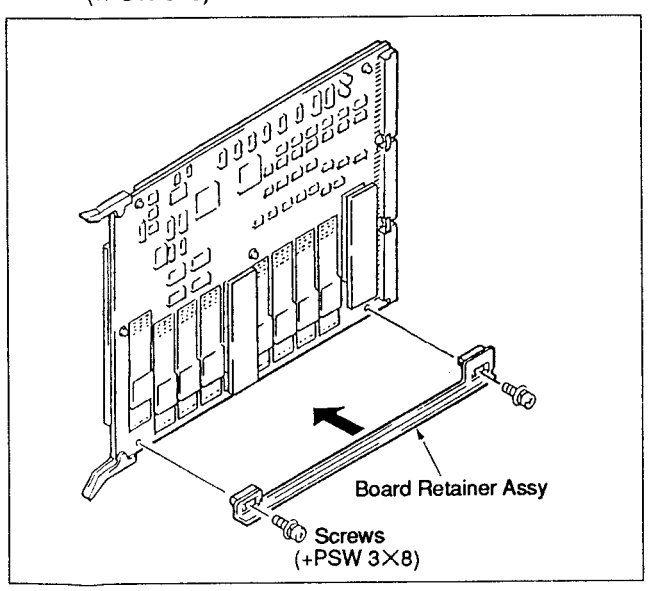
(2) BKDS-6063(SD-31 board)
/BKDS-6064(DA-73 board): For DVS-6000
[Standard Board: OUT-3 board – Slot No. 10]

① Remove the two screws (+PSW 3×8) securing the Board Retainer Ass'y.
② Set the SD-30 board or the DA-73 board to the specified position on the OUT-3 board.



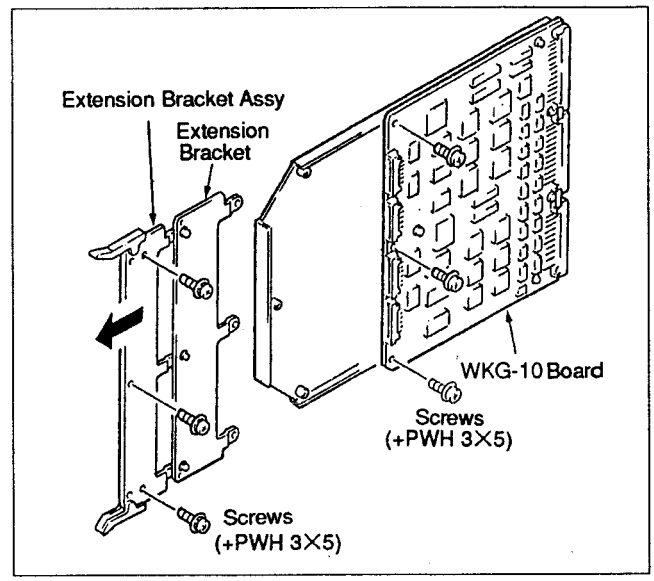
Note: The OUT-3 board can have ten option boards. In inserting the option boards, install them tightly (but so as not to curve each terminal).

③ Lock the Board Retainer Ass'y by the two screws (+PSW 3×8).

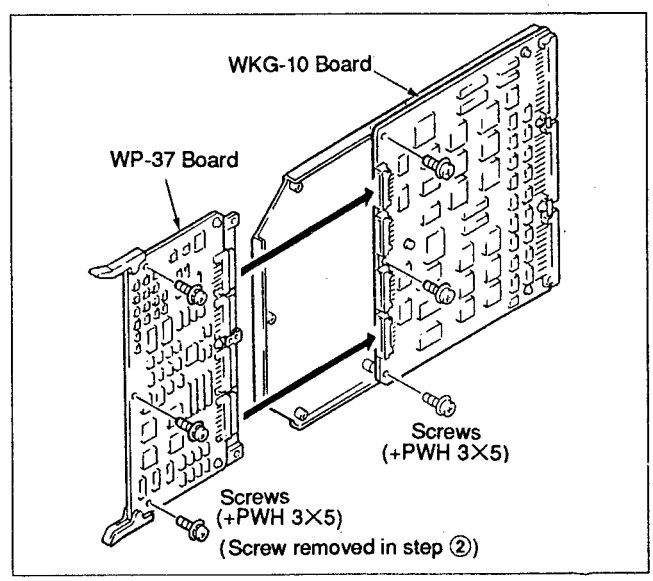


(3) BKDS-6070(WP-37 board)
[Standard Board: WKG-10 board – Slot No. 4]

① Remove the three screws (+PWH 3×5) securing the WKG-10 board.
② Remove the three screws (+PWH 3×5) securing the Extension Bracket Ass'y.

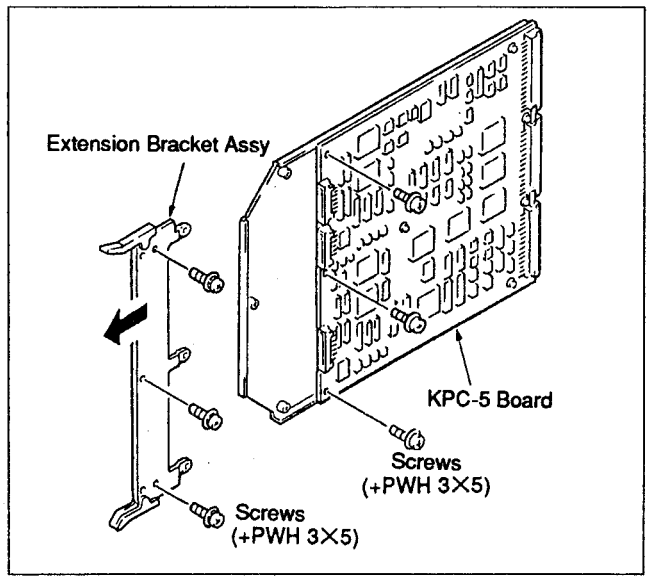


③ Insert the connector on the WP-37 board to the connector on the WKG-10 board. Lock the board by the six screws (+PWH 3×5).

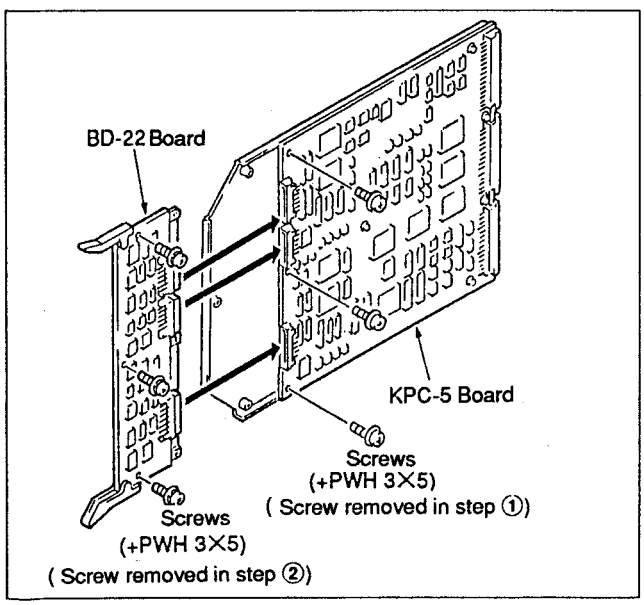


(4) BKDS-6071(BD-22 board)
[Standard Board: KPC-5 board—Slot No. 5, 7]

① Remove the three screws (+PWH 3×5) securing the KPC-5 board.
② Remove the three screws (+PWH 3×5) securing the Extension Bracket Ass'y.



③ Insert the connector on the BD-22 board to the connector on the KPC-5 board. Lock the board by the six screws (+PWH 3×5).

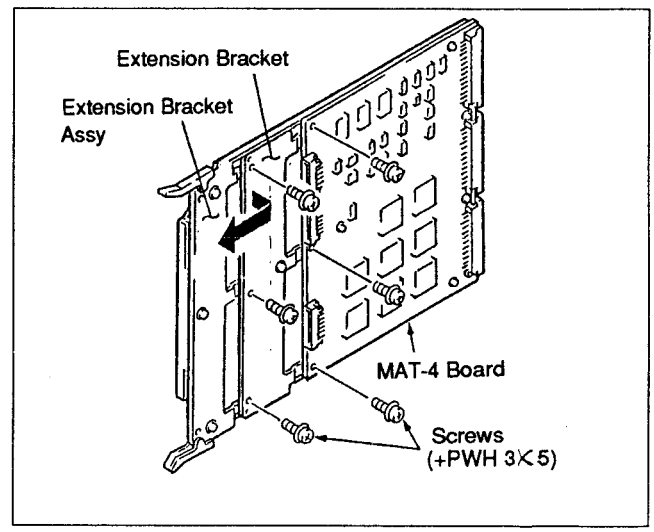


(5) BKDS-6072(MT-90 board)
[Standard Board: MAT-4 board—Slot No. 13]

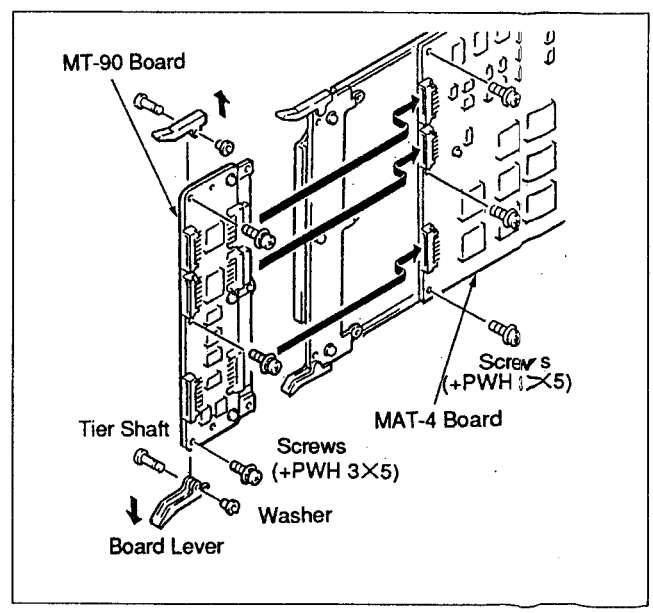
The MT-90 board can select 1 channel or 2 channel. The installation is different in channel number.

In the case of 1 channel

① Remove the three screws (+PWH 3×5) securing the MAT-4 board.
② Remove the three screws (+PWH 3×5) securing the Extension Bracket.
③ Remove the three screws (+PWH 3×5) securing the Extension Bracket Ass'y.

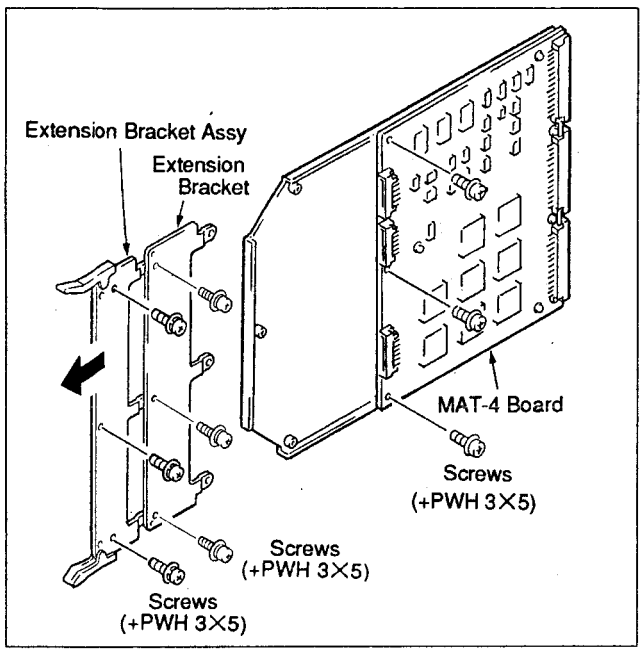


④ Remove the washers, then remove the two tier shafts of the Board Lever on the MT-90 board.
⑤ Insert the MT-90 board to the connector on the MAT-4 board. Install the MT-90 board to the MAT-4 board with the Extension Bracket Ass'y by the six screws (+PWH 3×5).

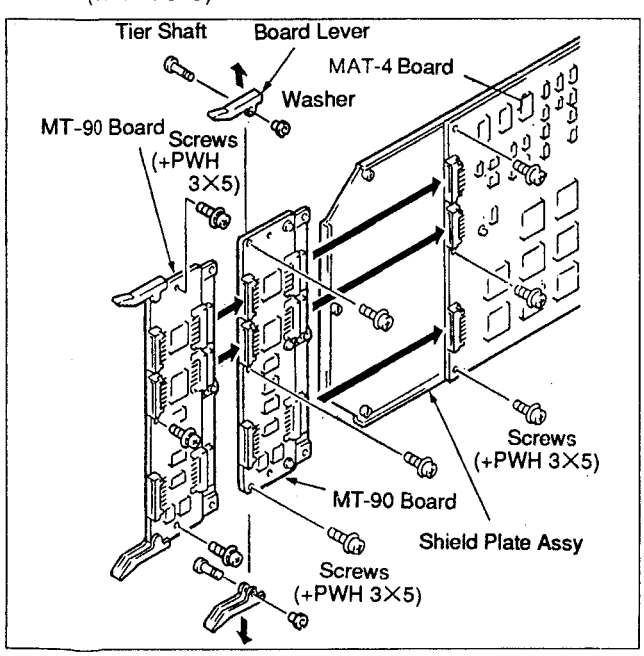


In the case of 2 channel (Use the two MT-90 boards.)

① Remove the three screws (+PWH 3×5) securing the MAT-4 board.
② Remove the three screws (+PWH 3×5) securing the Extension Bracket.
③ Remove the three screws (+PWH 3×5) securing the Extention Bracket Ass'y.

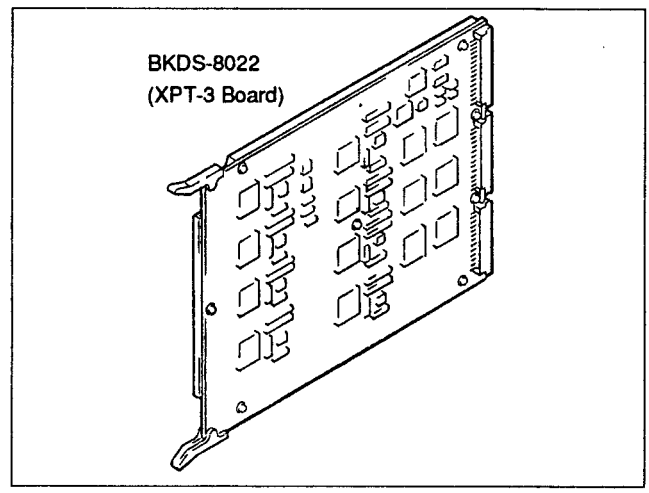


④ Remove the washers, then remove the two tier shafts of the Board Lever on a MT-90 Board.
⑤ Insert the connector on the MT-90 board (used in step 3) to another MT-90 board (with the Board Lever). Lock the board by the three screws (+PWH 3×5).
⑥ Insert the assembled MT-90 boards to the connector on the MAT-4 board. Lock the boards to the MAT-4 board with the Shield Plate Ass'y by the six screws (+PWH 3×5).



(6) BKDS-8022 (XPT-3 board)
[Slot No. 15 thru. 18]

The XPT-3 board can be installed without removing another board.
Insert the XPT-3 board into the board lack.

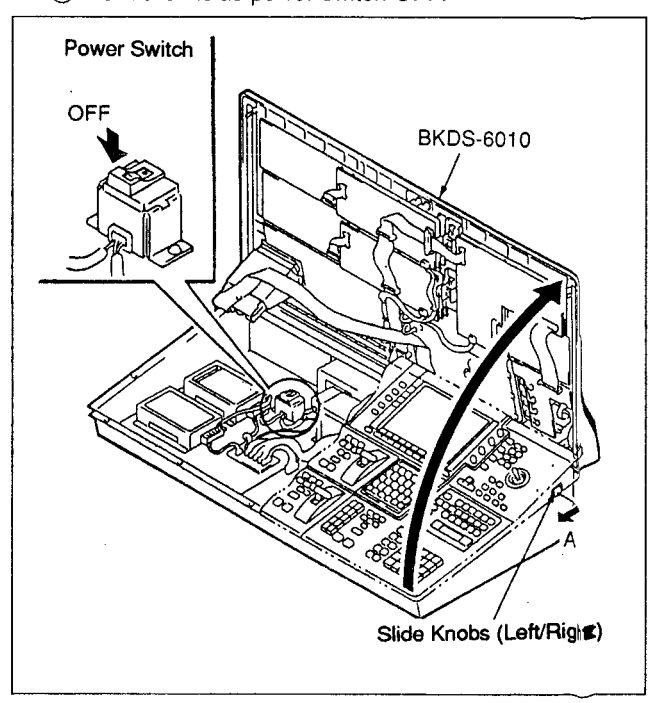


(7) BKDS-6050 (IF-418/LE-115/KY-244 boards)

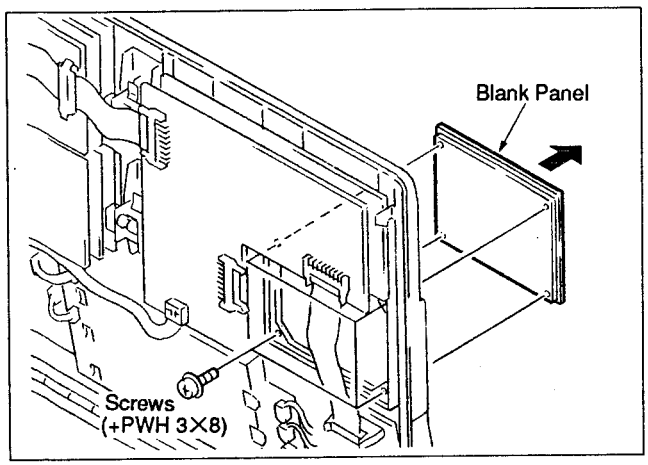
BKDS-6050 has two kinds of harnesses shown as follows.
Harness (Long): 1-951-590-11
Harness (Short): 1-951-591-11

- Install BKDS-6050 in the following procedure.

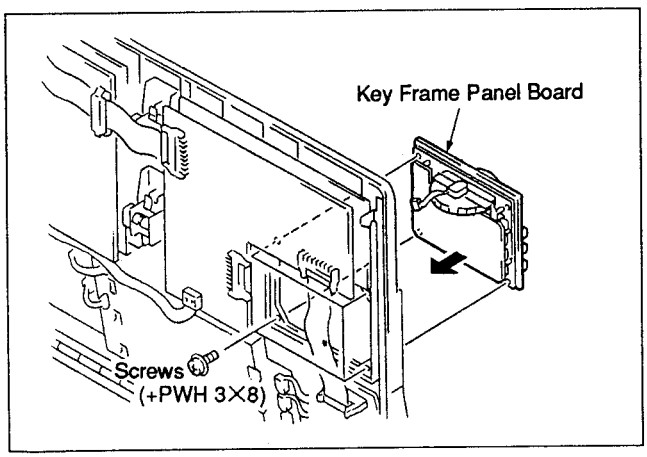
① Pull the slide knobs at each side of the front panel in the direction of arrow A, and release the lock.
Then, lift up the front panel upward.
② Turn the inside power switch OFF.



③ Remove the four screws (+PWH 3×8) securing the blank panel.

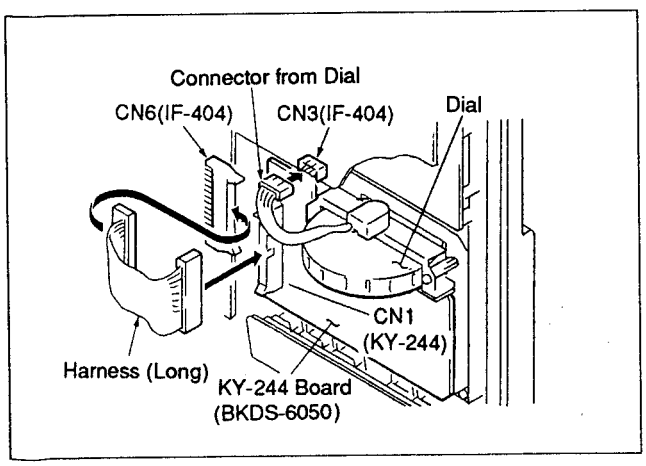


④ Insert the Key Frame Panel Board in the position of the blank panel removed in step ③, and screw the board by the four screws (+PWH 3×8).

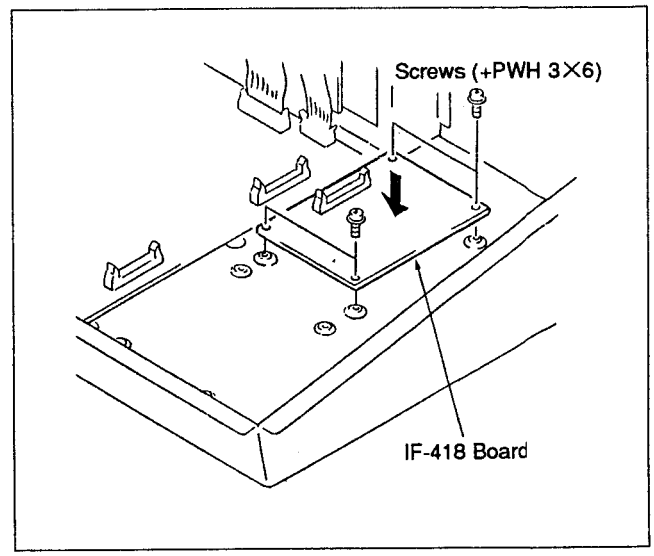


⑤ Connect the harness (long) supplied with the unit as accessories between the connector CN6 of the IF-404 board and the connector CN1 of the KY-244 board (BKDS-6050).

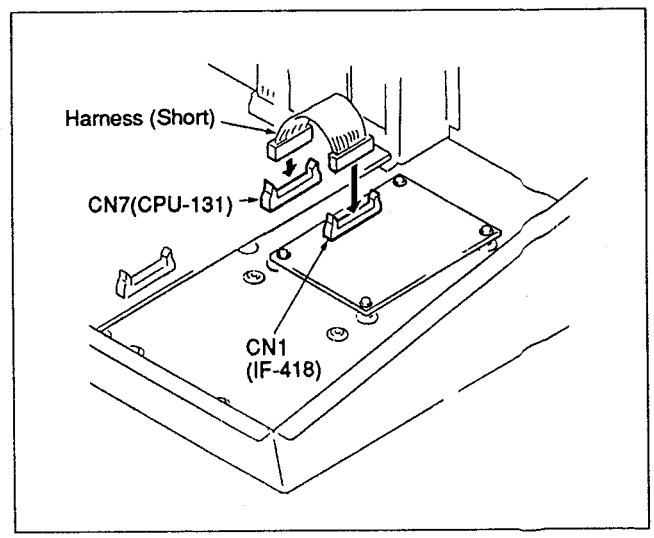
⑥ Connect the connector of a dial to the connector CN3 of the IF-404 board.



⑦ Install the IF-418 board with the four screws (+PWH 3×6).



⑧ Connect the harness (short) supplied with the unit as accessories between the connector CN1 of the IF-418 board and the connector CN7 of the CPU-131 board.



After installing BKDS-6050, replace the ICs in the following procedure.
In the case of not replacing the ICs, BKDS-6050 does not operate normally.

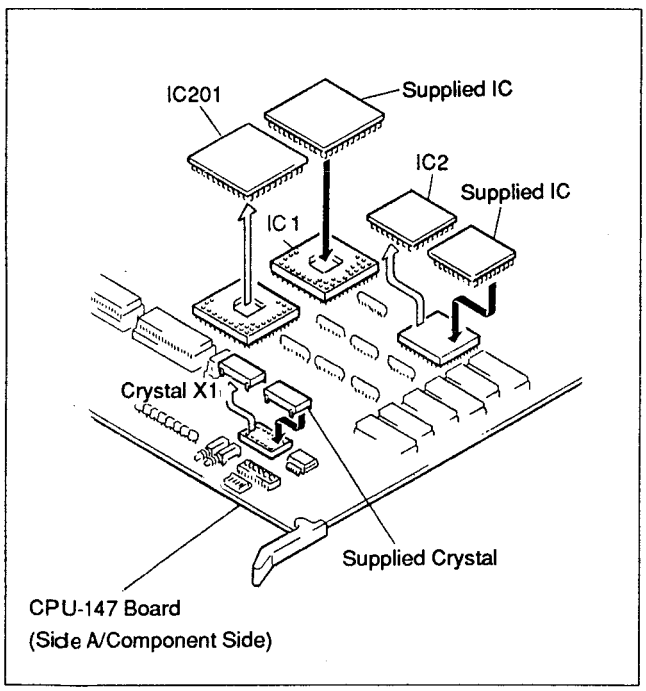
• CPU IC replacement

① Remove the CPU-147 board (slot No. 1) from DVS-6000/6000C.
(Refer to Section 3-7. Removal/Installation of Boards.)

② Remove IC201, IC2 and Crystal X1 on the CPU-147 board.

③ Mount ICs and Crystal supplied with BKDS-6050 as accessories onto IC1, IC2 and X1 on the CPU-147 board.

Note: ICs and Crystal supplied with BKDS-6050 as accessories do not have the reference numbers.
For the installation of ICs, refer to the following table, corresponding the reference numbers and ICs' name.



REF. No.	Parts Name	Sony Parts No.
IC1	MC68020RC33	8-759-039-06
IC2	MC68882RC33	8-759-039-07
X1	SG51YH66.6700 MHz	1-579-437-11

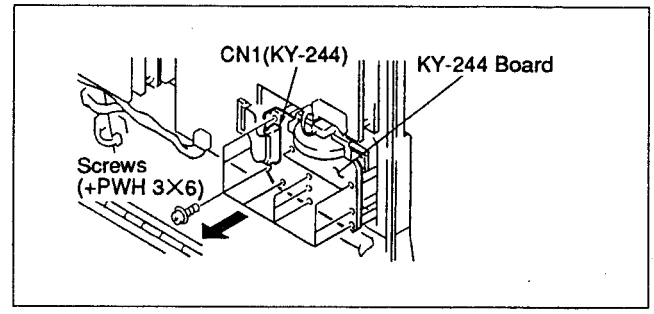
For IC201 and IC1

When replace the ICs, always remove IC201. Never switch on the power in the condition that both IC1 and IC201 are mounted.
Replace the ICs in the flat place.
And after replacing, make sure that the ICs are installed tightly.

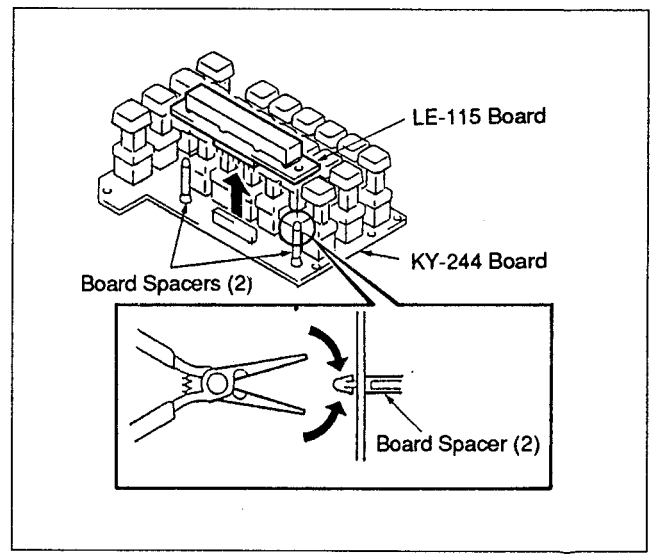
• Remove BKDS-6050 in the following procedure.

① Switch the power OFF in the steps ① and ② of installing BKDS-6050.

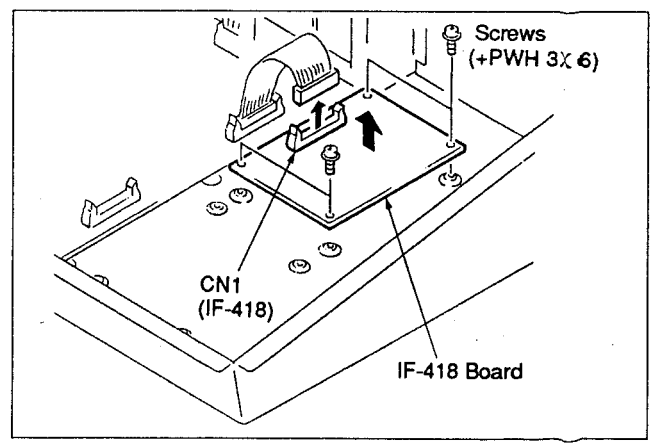
② Disconnect the connector CN1 on the KY-244 board, and remove the eleven screws (+PWH 3×6) shown by the arrows.



③ Pick the top of the Board Spacer (2) using a Long Noise Pliers. Pull out the board while releasing the lock.



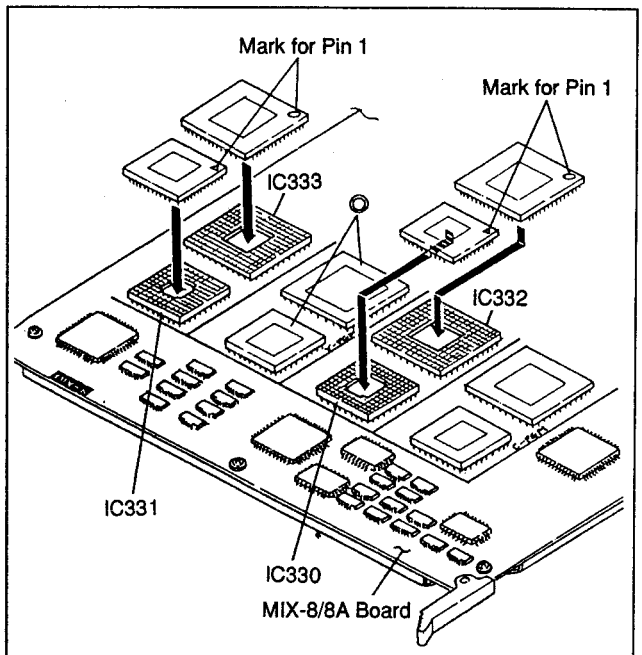
④ Disconnect the connector CN1 of the IF-418 board, and remove the four screws (+PWH 3×6) shown by the arrows.



(8) BKDS-6073/6074

BKDS-6073: For DVS-6000
BKDS-6074: For DVS-6000C

① Remove two MIX-8/MIX-8A boards (slot No. 6, 8) from DVS-6000/6000C. (Refer to Section 3-7. Removal/ Installation of Boards.)
② Mount the optional ICs onto specified positions.
Note: The optional ICs do not have the reference numbers.
For the installation of ICs, refer to the following table, corresponding the reference numbers and ICs name.
Mount ICs with strength in the flat place, and make sure that ICs are installed exactly.



ICs with ◎ mark are not mounted on DVS-6000.

REF. No.	Parts Name
IC330	CXD8066
IC331(*)	CXD8066
IC332	CXD8067
IC333(*)	CXD8067

(*): DVS-6000 does not have IC331 and IC333.
For DVS-6000, mount the optional ICs on IC330 and IC332.

2-6. CONNECTORS

When connecting cables to various connectors on the connector panel at the time of installing, connecting or servicing, connect the following connectors or their equivalents.

1. DVS-6000/6000C

Connector function name on connector panel	Connector parts No. and name of cable
CONTROL EDITOR A EDITOR B DME 1 (AUX BUS) DME 2 (AUX BUS) SERIAL TALLY USER	D-SUB 9 PIN (MALE) 1-560-651-00 CONNECTOR 9P, MALE 1-561-749-00 JUNCTION SHELL 9P
TERMINAL GPI	D-SUB 25 PIN (MALE) 1-566-356-00*1 CONNECTOR 25P, MALE 1-563-377-00 JUNCTION SHELL 25P
EXT	AMPHENOL 50 PIN (MALE)
REF INPUT SPARE REF OUTPUT ME-1 OUTPUT ME-2 OUTPUT PGM OUTPUTS ASSIGN OUTPUTS AUX BUS OUTPUTS EDIT PVW OUTPUTS CHROMA KEY INPUTS PRIMARY INPUTS	BNC oaxial connector plug
AC IN	MAIN POWER SUPPLY CABLE (supplied with DVS-6000) 1-551-812-11

*1: The following solderless connectors must be used for the plug.
AWG #18 to #22: 1-566-493-00
AWG #22 to #24: 1-564-774-00
AWG #24 to #30: 1-564-775-00

2. BKDS-6010

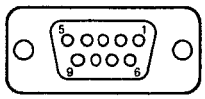
Connector function name on connector panel	Connector parts No. and name of cable
SWITCHER DME REMOTE TEST TERMINAL 1 2 3	D-SUB 9 PIN (MALE) 1-560-651-00 CONNECTOR 9P, MALE 1-561-749-00 JUNCTION SHELL 9P
AC IN	MAIN POWER SUPPLY CABLE (supplied with BKDS-6010) 1-551-812-11

2-7. INPUT/OUTPUT SIGNALS OF CONNECTORS

The input/output signals of the connectors on the connector panel are specified in the following table.

(1) DVS-6000/6000C

CONTROL: RS-422A (D-SUB 9 PIN • FEMALE)

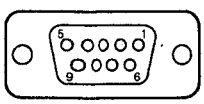


— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	CON TX-A	Transmit data (−) to Control Panel (*1)
3	CON RX-B	Receive data (+)from Control Panel
4	GND	Common ground from Control Panel
5	VDB	VD signal (+) transmitting to Control Panel
6	GND	Common ground to Control Panel
7	CON TX-B	Transmit data (+) to Control Panel
8	CON RX-A	Receive data (−) from Control Panel
9	VDA	VD signal (−) transmitting to Control Panel

(*1): Control Panel BKDS-6010 etc.

EDITOR A: RS-422A (D-SUB 9 PIN • FEMALE)

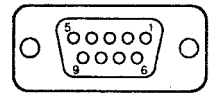


— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	EDT A TX-A	Transmit data (−) to Editor (*2)
3	EDT A RX-B	Receive data (+) from Editor
4	GND	Common ground from Editor
5		Spare
6	GND	Common ground to Editor
7	EDT A TX-B	Transmit data (+) to Editor
8	EDT A RX-A	Receive data (−) from Editor
9	GND	Frame ground

(*2): Editing Control Unit BVE-9000 etc.

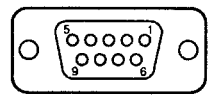
EDITOR B: RS-422A (D-SUB 9 PIN • FEMALE)



— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	EDT B TX-A	Transmit data (−) to Editor (*2)
3	EDT B RX-B	Receive data (+) from Editor
4	GND	Common ground from Editor
5		Spare
6	GND	Common ground to Editor
7	EDT B TX-B	Transmit data (+) to Editor
8	EDT B RX-A	Receive data (−) from Editor
9	GND	Frame ground

DME 1 (AUX BUS): RS-422A (D-SUB 9 PIN • FEMALE)

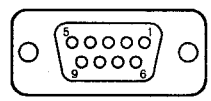


— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	DME 1 TX-A	Transmit data (−) to DME (*3)
3	DME 1 RX-B	Receive data (+) from DME
4	GND	Common ground from DME
5		Spare
6	GND	Common ground to DME
7	DME 1 TX-B	Transmit data (+) to DME
8	DME 1 RX-A	Receive data (−) from DME
9	GND	Frame ground

(*3): Digital Multi Effects DME-5000 etc.

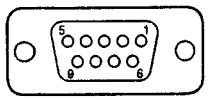
DME 2 (AUX BUS): RS-422A (D-SUB 9 PIN • FEMALE)



— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	DME 2 TX-A	Transmit data (−) to AUX BUS Remote
3	DME 2 RX-B	Receive data (+) from AUX BUS Remote
4	GND	Common ground from AUX BUS Remote
5		Spare
6	GND	Common ground to AUX BUS Remote
7	DME 2 TX-B	Transmit data (+) to AUX BUS Remote
8	DME 2 RX-A	Receive data (−) from AUX BUS Remote
9	GND	Frame ground

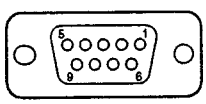
SERIAL TALLY: RS-422A (D-SUB 9 PIN • FEMALE)



— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	SERIAL TALLY RX-A	Receive data (−)
3	SERIAL TALLY TX-B	Transmit data (+)
4	GND	Common ground
5		Spare
6	GND	Common ground
7	SERIAL TALLY RX-B	Receive data (+)
8	SERIAL TALLY TX-A	Transmit data (−)
9	GND	Frame ground

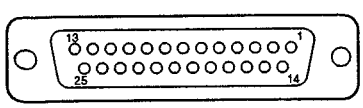
USER: RS-422A (D-SUB 9 PIN • FEMALE)



— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	USER D1 (−)	Receive (Transmit) data (−)
3	USER D2 (+)	Transmit (Receive) data (+)
4	GND	Common ground
5		Spare
6	GND	Common ground
7	USER D1 (+)	Receive (Transmit) data (+)
8	USER D2 (−)	Transmit (Receive) data (−)
9	GND	Frame ground

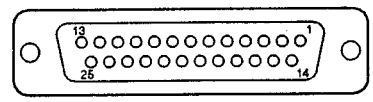
TERMINAL: RS-232C (D-SUB 25 PIN • FEMALE)



— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Frame ground
2	RXD	Receive data
3	TXD	Transmit data
4	CTS	Transmit enable
5	RTS	Transmit request
6		NC
7	GND	Ground
8 — 25		NC

GPI: (D-SUB 25 PIN • FEMALE)
INPUT×8, TTL
OUTPUT×7, relay contact 30 V 100 mA (In case of resistance load)



— EXT VIEW —

Pin No.	Signal name	Function
1	GND	Ground
2	GND	Ground
3	GPI IN 2	General-purpose input
4	GPI IN 4	
5	GPI IN 6	
6	GPI IN 8	
7	GPI OUT 1B	General-purpose output
8	GPI OUT 2B	
9	GPI OUT 3B	
10	GPI OUT 4B	
11	GPI OUT 5B	
12	GPI OUT 6B	
13	GPI OUT 7B	
14	GND	Ground
15	GPI IN 1	General-purpose input
16	GPI IN 3	
17	GPI IN 5	
18	GPI IN 7	
19	GPI OUT 1A	General-purpose output
20	GPI OUT 2A	
21	GPI OUT 3A	
22	GPI OUT 4A	
23	GPI OUT 5A	
24	GPI OUT 6A	
25	GPI OUT 7A	

Note: A and B of the same number constitute a pair of relay contacts.

PRIMARY INPUTS (BNC ×32)
In using BKDS-8022 ..... Serial Digital Video Signal Input
Level: 800 mV ± 10 %
In using BKDS-8021* ..... Analog Composite Video Signal Input
Level: 0 ± 3 dB

CHROMA KEY INPUTS (BNC ×8)
In using BKDS-8030 ..... Analog Component Signal Input
Y/B-Y/R-Y(Betacam, SMPTE) SYNC
or G/B/R SYNC
Y or G (with SYNC) input/ external synchronized input changeable
Level: 0 ± 3 dB

REF INPUTS (BNC ×2)
Analog Black Burst Video Signal Input with loop-through
Level: 0 ± 4 dB

ME-1 PGM OUTPUT (BNC ×1)
In using BKDS-6063 ..... Serial Digital Video Signal Output
Level: 800 mV ± 10 %
In using BKDS-6064* ..... Analog Composite Signal Output
Level: 0 ± 3 dB

ME-2 PGM OUTPUT (BNC ×1)
In using BKDS-6063 ..... Serial Digital Video Signal Output
Level: 800 mV ± 10 %
In using BKDS-6064* ..... Analog Composite Signal Output
Level: 0 ± 3 dB

PGM OUTPUTS (BNC ×4)
In using BKDS-6063 ..... Serial Digital Video Signal Output
Level: 800 mV ± 10 %
In using BKDS-6064* ..... Analog Composite Signal Output
Level: 0 ± 3 dB

ASSIGN OUTPUTS (BNC ×2)
In using BKDS-6063 ..... Serial Digital Video Signal Output
Level: 800 mV ± 10 %
In using BKDS-6064* .... Analog Composite Signal Output
Level: 800 mV ± 10 %

AUX BUS OUTPUTS (BNC ×6)
In using BKDS-6063 ..... Serial Digital Video Signal Output
Level: 800 mV ± 10 %
In using BKDS-6064* .... Analog Composite Signal Output
Level:

EDIT PVW OUTPUTS (BNC ×3)
In using BKDS-6060 ..... Serial Digital Video Signal Output
Level: 800 mV ± 10 %
In using BKDS-6061* .... Analog Composite Signal Output
Level: 0 ± 3 dB
In using BKDS-6062** .. Analog Composite Signal Output (Y/U/V)
Level: 0 ± 3 dB(Y/U/V)

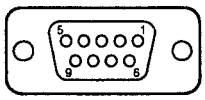
REF OUTPUT (BNC ×1)
In using BKDS-6060/6061* .... Analog Black Burst Signal Output
In using BKDS-6062** ..... Analog Black Burst Signal Output (525 mode only)
or
SYNC Signal Output

AC IN (3 PIN AC Connector ×1)
AC Power Input

*: For DVS-6000
**: For DVS-6000C

(2) BKDS-6010

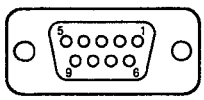
SWITCHE: (D-SUB 9PIN • FEMALE)



—EXT VIEW—

Pin No.	Signal name	Function
1	FG	Frame ground
2	RX-A	Receive data (−) from DVS-6000/6000C
3	TX-B	Transmit data (+) to DVS-6000/6000C
4	TX-COM	Signal ground
5	VD (+)	VD signal input (+) from DVS-6000/6000C
6	RX-COM	Signal ground
7	RX-B	Receive data (+) from DVS-6000/6000C
8	TX-A	Transmit data (−) to DVS-6000/6000C
9	VD (−)	VD signal input (−) from DVS-6000/6000C

DME: (D-SUB 9PIN • FEMALE)

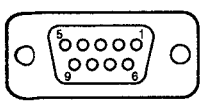


— EXT VIEW —

Pin No.	Signal name	Function
1	FG	Frame ground
2	RX-A	Receive data (−) from DME (*)
3	TX-B	Transmit data (+) to DME
4	TX-COM	Signal ground
5		
6	RX-COM	Signal ground
7	RX-B	Receive data (+) from DME
8	TX-A	Transmit data (−) to DME
9	FG	Frame ground

(*): Digital Multi Effects DME-5000 etc.

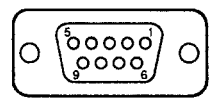
REMOTE : (D-SUB 9PIN • FEMALE)



— EXT VIEW —

Pin No.	Signal name	Function
1	FG	Frame ground
2	RX-A	Receive data (−)
3	TX-B	Transmit data (+)
4	TX-COM	Signal ground
5		
6	RX-COM	Signal ground
7	RX-B	Receive data (+)
8	TX-A	Transmit data (−)
9	FG	Frame ground

TEST: (D-SUB 9PIN • FEMALE)

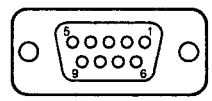


— EXT VIEW —

Pin No.	Signal name	Function
1	FG	Frame ground
2	TX-A	Transmit data (−)
3	RX-B	Receive data (+)
4	RX-COM	Signal ground
5		
6	TX-COM	Signal ground
7	TX-B	Transmit data (+)
8	RX-A	Receive data (−)
9	FG	Frame

TERMINAL 1, 2, 3: (D-SUB 9PIN • FEMALE)

TERMINAL 1, 2 and 3 have the same signal names and functions.



— EXT VIEW —

Pin No.	Signal name	Function
1	DCD	Received line signal detector signal
2	RX	Receive data
3	TX	Transmit data
4	DTR	Data terminal ready signal
5	GND	Signal ground
6	DSR	Data set ready signal
7	RTS	Request to send signal
8	CTS	Clear to send signal
9		

Note: Pin 1, 4 and 6 are connected each other at connector inside.

AC IN (3 PIN AC Connector ×1)

AC Power Input

2-8. RACK MOUNTING (DVS-6000/6000C)

- DVS-6000/6000C can be mounted in a standard 19 inch rack. Be sure to use the rack mount rail RMM-18DV available as an option.

<Necessary Parts>

- Rack mount rail (RMM-18DV)
- 8 screws for locking flat nut/long type (+B 4×8)
- 4 screws for rack mounting (+RK 5×16)
- 4 decorative washers for rack mounting
  Sony Parts No.: 2-297-913-01

<Cautions>

(1) If you mount DVS-6000/6000C or a related in a 19 inch standard rack, you are advised to install a ventilation fan to prevent a temperature rise in the rack.
Make sure that all the sets in the rack can be operated within the temperature range of 5°C to 40°C.

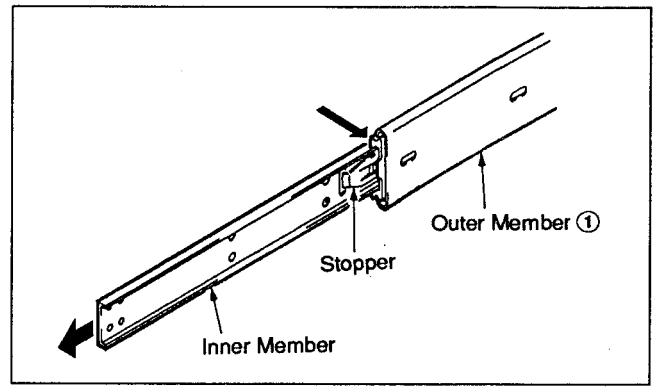
(2) Be sure to use the recommended rail. The set cannot be locked completely to a rack by rack angles alone.

(3) You are advised to lock the rack to the floor with strong bolts. When you pull out the set from the rack, the bolts will prevent its fall.

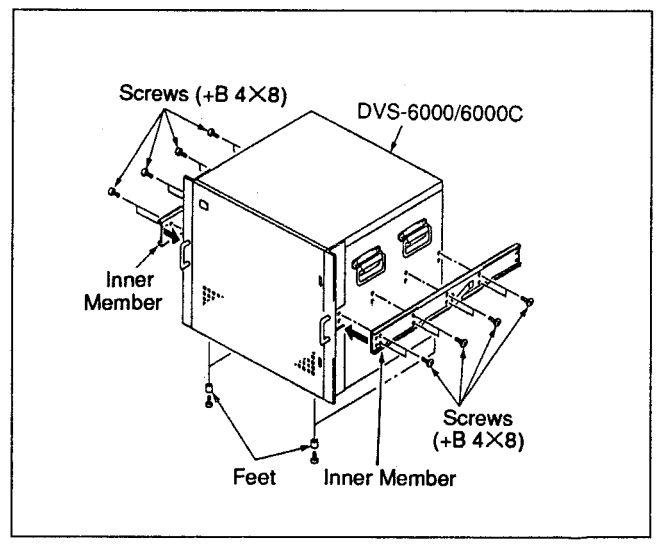
(4) An installation manual is packed with the rack mount rail RMM-18DV. The method for mounting the DVR Series VTR on a rack is explained. Since the rack mounting procedure of DVS-6000/6000C differs somewhat from that of VTR, follow the instructions in this manual.

<Mounting Procedure>

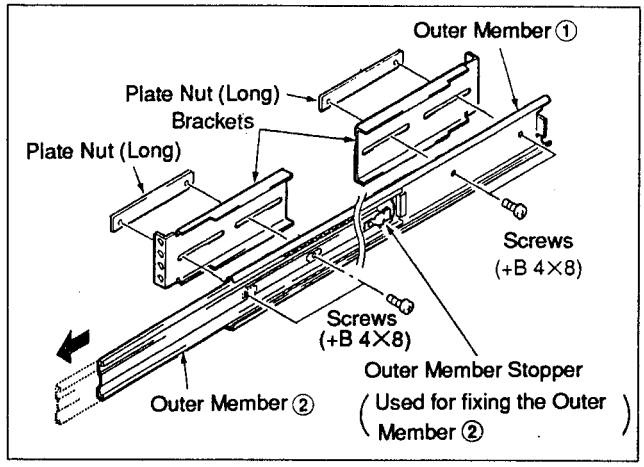
(1) Pull out the inner member while pressing the stopper of the rack mount rail RMM-18DV.



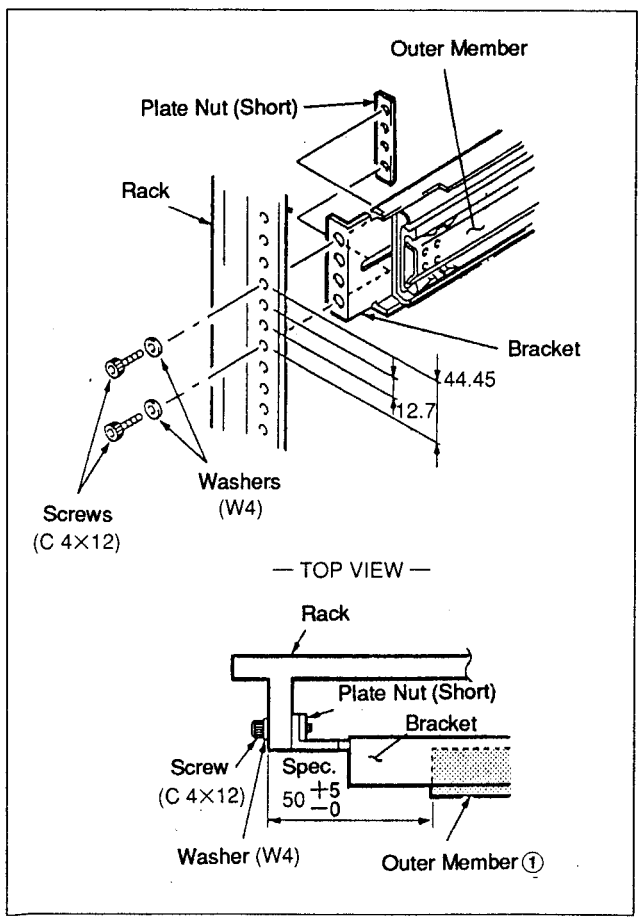
(2) Secure the inner members to the set using the 16 screws (+B 4×8) supplied as an accessory to RMM-18DV. Remove the 4 feet of the set as required.



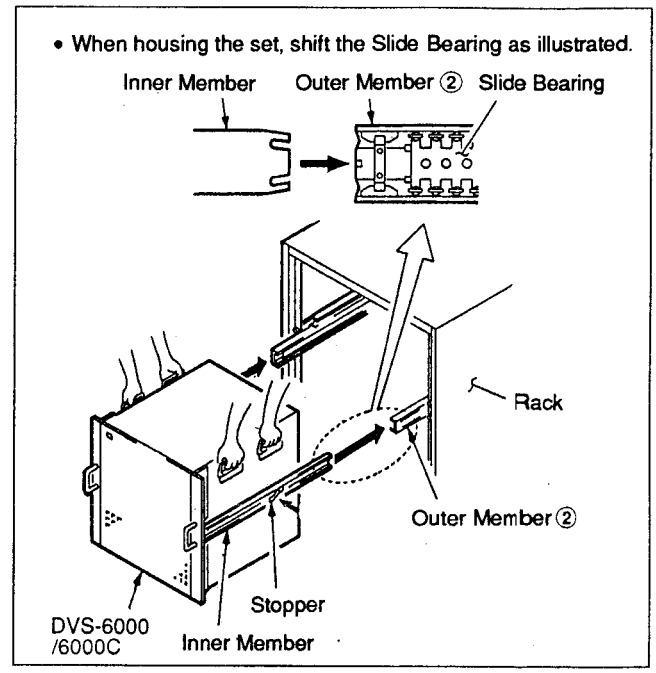
(3) Secure the brackets to the outer member ① temporarily by using 8 screws (+B 4×8). Move the outer member ② back and forth so that trhe screw holes of the outer member ① can be seen.



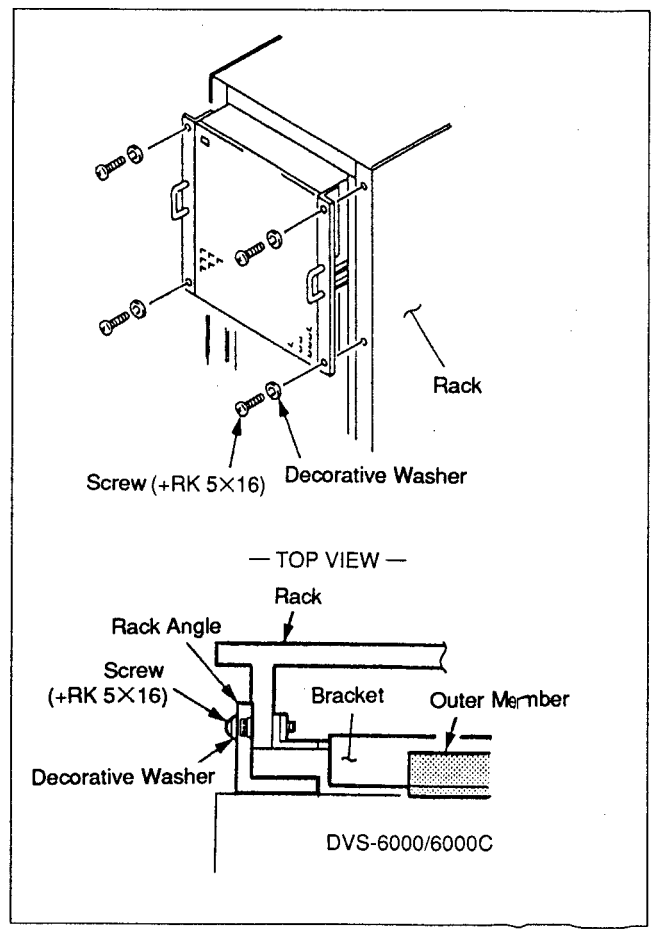
(4) Secure the outer member assembly to RMM-18DV temporarily by using 4 screws (C 4×12) and 4 washers (W4) supplied as accessories. At this time, adjust the outer member position. After adjusting the outer member position, tighten the screws (+B 4×8) securing temporarily in step (3).



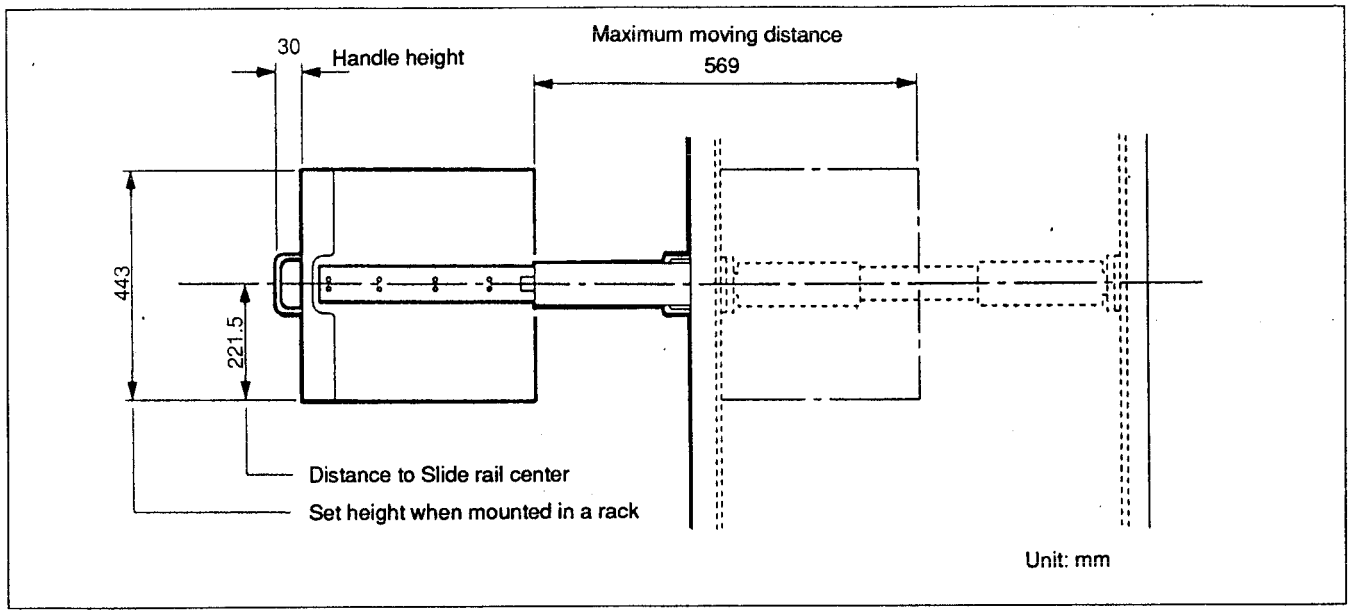
(5) Before housing the set, release the stoppers of the inner member. After making sure that the set can be housed smoothly, tighten the screws (C 4×12) secured temporarily in step (4).



(6) After housing the set, secure the set to the rack by using 4 screws (+RK 5×16) and 4 decorative washers.



• When DVS-6000/6000C are mounted in a rack, the maximum moving distance is as illustrated below.



2-9. SUPPLIED ACCESSORIES

(1) DVS-6000/6000C

Parts name	Parts No.	Q'ty
Power Cord	1-557-377-11	1
AC Plug 3P-2P Adaptor	1-506-411-21	1
Plug Holder	2-990-242-01	1
75-ohm Terminator	1-695-542-11	1
Installation and Maintenance Manual	3-179-788-01	1

(2) BKDS-6010

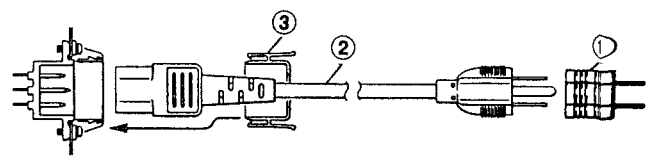
Parts name	Parts No.	Q'ty
Power Cord	1-557-377-11	1
AC Plug 3P-2P Adaptor	1-506-411-21	1
Plug Holder	2-990-242-01	1
Key Top Punching Tool	3-179-054-01	1
Switch Tip	3-678-081-01	2
	3-678-082-01	7

2-9-1. Connect of Supplied Power Cord

Required Parts:

① Adaptor, AC plug 3P-2P 1-506-411-21 (For J)
② Power Cord 1-557-377-11
③ Plug Holder (Black) 2-990-242-01

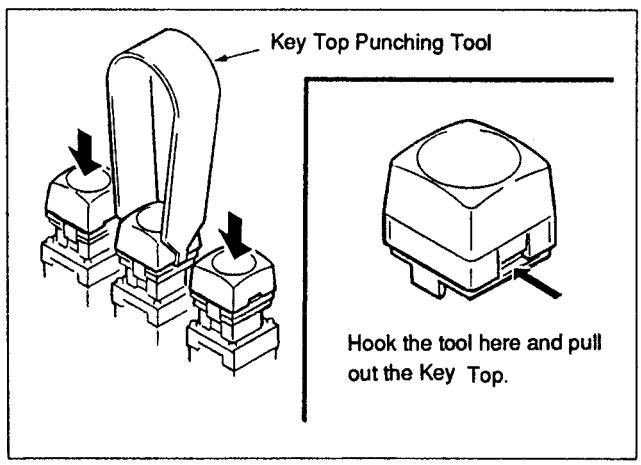
AC Inlet
(Main Unit)



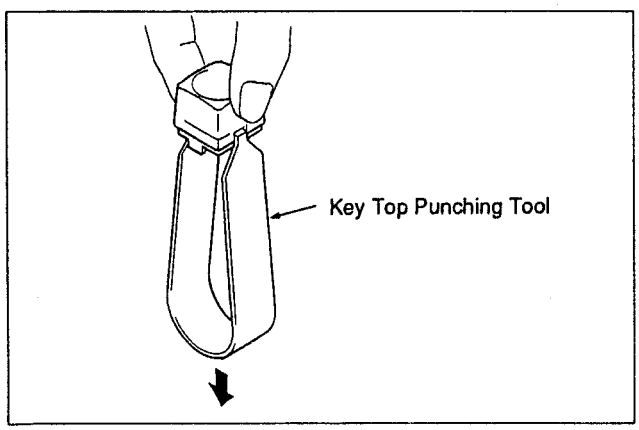
2-9-2. Inserting the Switch Tips

BKDS-6010 is supplied a Key Top Punching Tool inside the Panel.
Replace the key top in the following procedure.

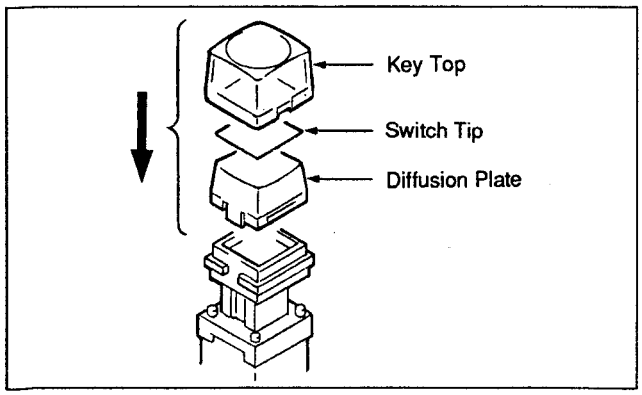
(1) Push down the key top on both side and insert the attached key top punching tool in the gap between the key and the sides.
And then, hold the key top with extreme attention to remove the key top.



(2) From the key top removed in the step (1) above, remove the diffusion plate (milky white) with the key top punching tool.



(3) Insert the switch tip between the diffusion plate (milky white) and the key top (clear) and mount them by pushing them into the gaps.



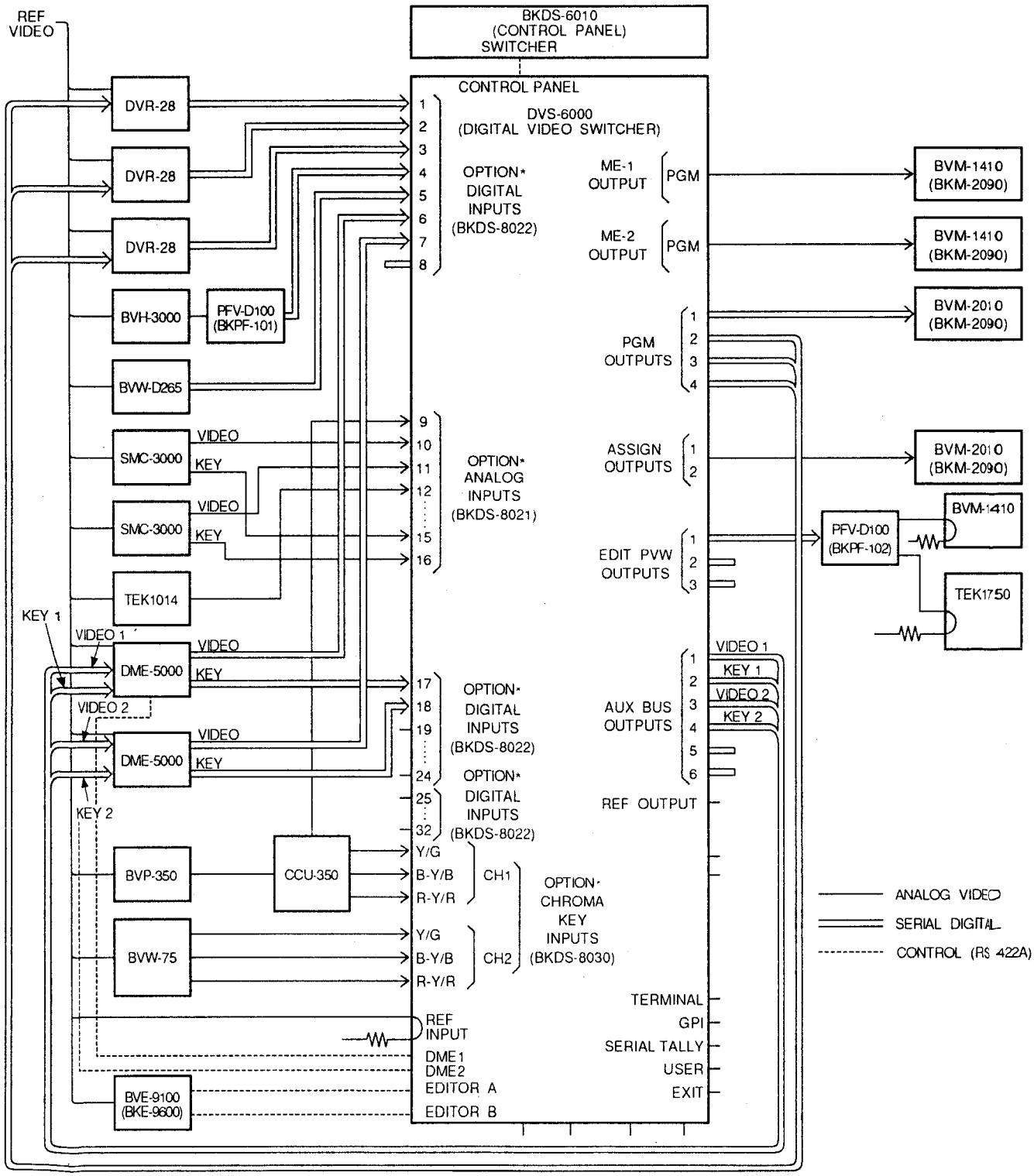
2-10. OPTIONAL ACCESSORIES

The following optional accessories are available for DVS-6000/6000C and BKDV-6010.

- Extension Board Sony Part No, : A-6279-727-A
- Service Manual Sony Part No, : 9-967-479-01
- Rack Mount Rail (RMM-18DV)
- BKDS-6010: CONTROL PANEL
- BKDS-6050: KEY FRAME CONTROL PANEL
- BKDS-6060: DIGITAL EDIT PVW/REF OUTPUT BOARD
- BKDS-6061: ANALOG EDIT PVW/REF OUTPUT BOARD (For DVS-6000)
- BKDS-6062: ANALOG EDIT PVW/REF OUTPUT BOARD (For DVS-6000C)
- BKDS-6063: DIGITAL OUTPUT BOARD
- BKDS-6064: ANALOG OUTPUT BOARD (For DVS-6000)
- BKDS-6070: ENHANCED WIPE GENERATOR BOARD
- BKDS-6071: KEY BORDER GENERATOR BOARD
- BKDS-6072: BKGD COLOR MIX GENERATOR BOARD
- BKDS-6073: M/E PVW/KEY OUT (For DVS-6000)
- BKDS-6074: M/E PVW/KEY OUT (For DVS-6000C)
- BKDS-6090: SPARE POWER SUPPLY UNIT
- BKDS-8022: DIGITAL INPUT BOARD
- BKDS-8021: ANALOG INPUT BOARD
- BKDS-8030: CLEAN CHROMA KEY BOARD(2 pieces) (For DVS-6000)
- BKDS-8031: CLEAN CHROMA KEY BOARD(2 pieces) (For DVS-6000C)
- BKDS-8040: FRAME MEMORY BOARD (For DVS-6000)
- BKDS-8041: FRAME MEMORY BOARD (For DVS-6000C)

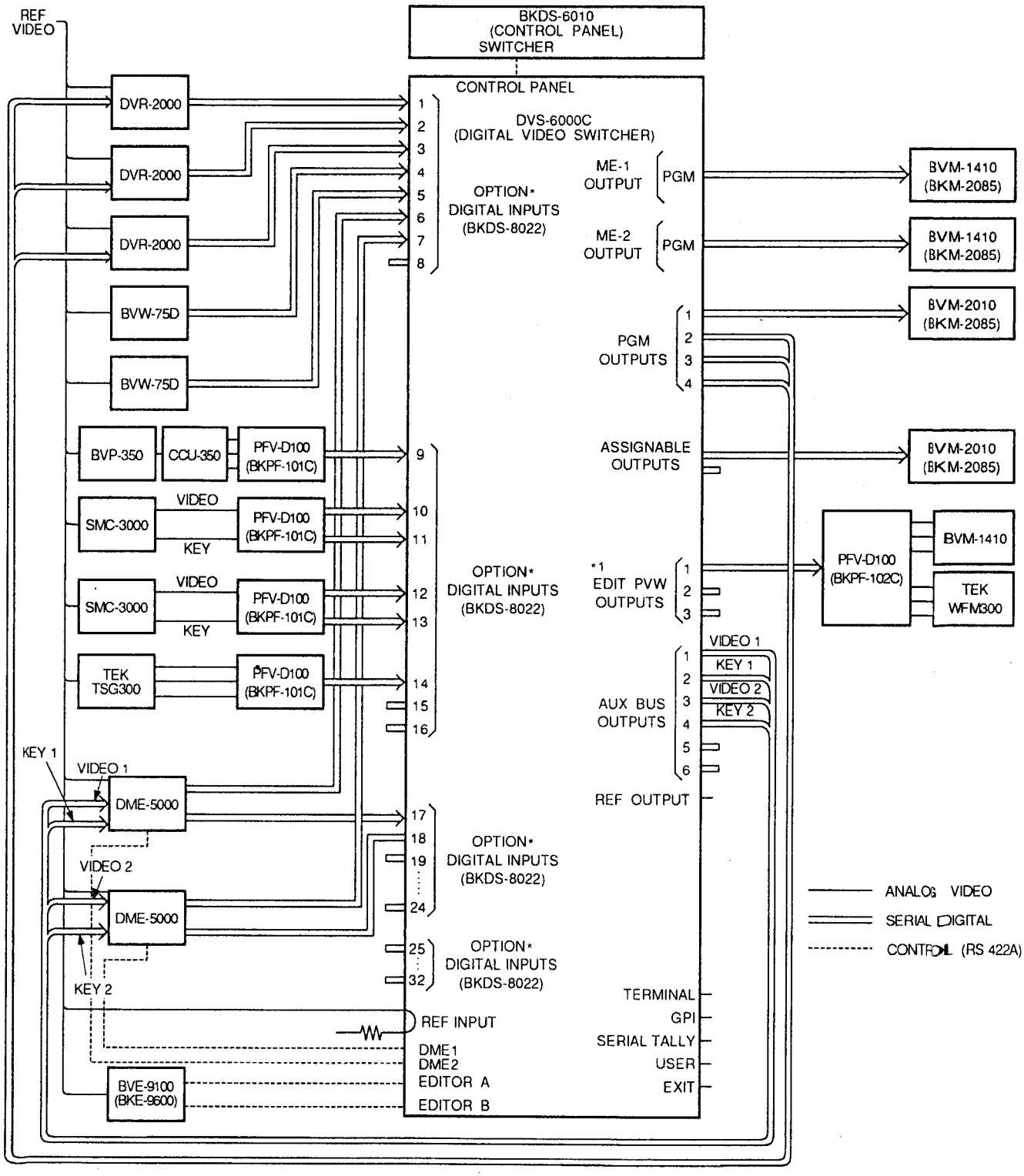
2-11. EXAMPLE OF SYSTEM CONNECTION (DVS-6000/6000C)

(1) DVS-6000



Note: You can select the Serial Digital or the Analog as the video ouptut system by selecting option board. In this table, the example for Serial Digiral is shown as the video system output sysem.

(2) DVS-6000C



Note: You can select the Serial Digital or the Analog as the EDIT PVW output by selecting option board. In this table, the example for Serial Digital is shown as the video system output system.

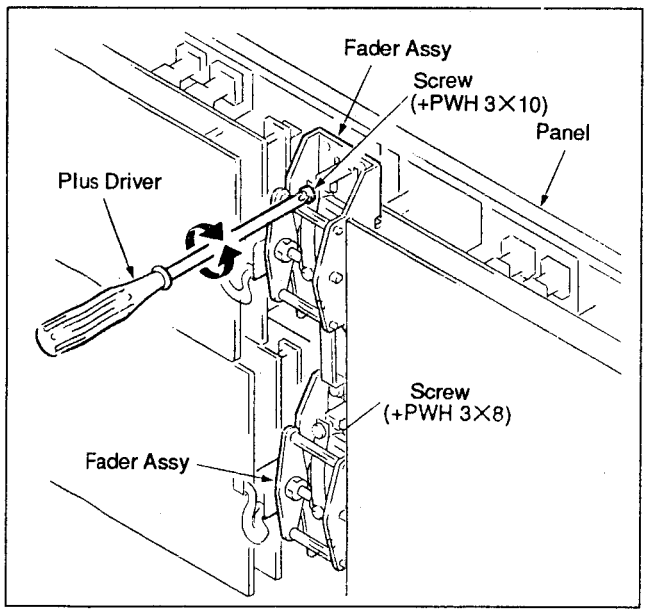
2-12. STIFFNESS OF THE FADER LEVER ADJUSTMENT (BKDS-6010)

- The stiffness of the Fader Lever can be adjusted without removing the Fader Ass'y from the main unit.

<Method>

The stiffness can be adjusted the weight by turning the specified screw(+PWH 3×10).

↺ Turn the screw counterclockwise to make it lighter.
↻ Turn the screw clockwise to make it heavier.

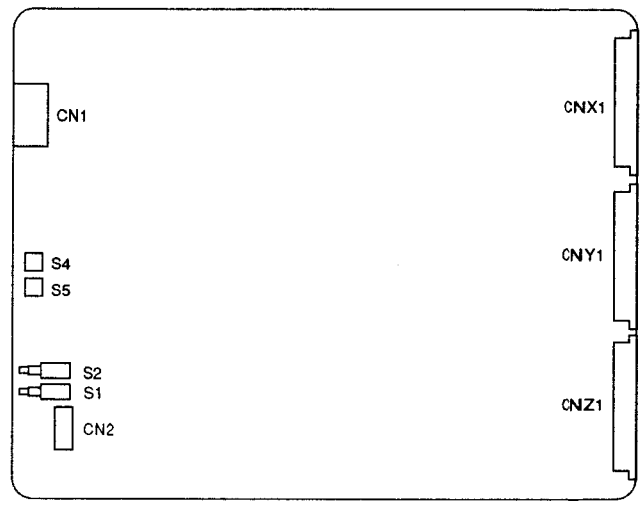


2-13. SELECT SWITCH /LAMP SETTING ON THE BOARD

Note: The address for the switch on the board is shown by ( ) mark.

(1) DVS-6000/6000C

CPU-147 Board



S1(M-1): RESET switch
This switch is for initialize the system.

S2(M-1): ABORT switch
This switch is only used for adjustment during manufacture.

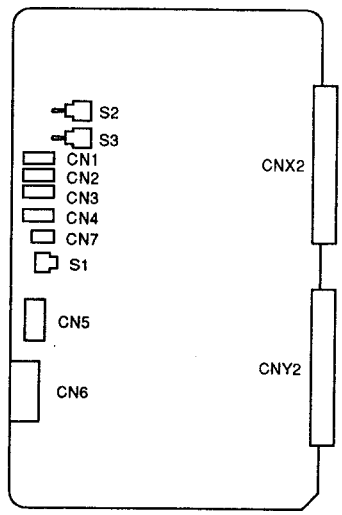
S3(N-1): Factory use
Factory setting: All OFF position (*1)

S4(H-1): Factory use
Factory setting: All OFF position (*1)

S5(J-1): Factory use
Factory setting: All OFF position (*1)

*1: Only used in Factory.
Do not set to ON.

LE-118 Board (DVS-6000)/LE-118A Board (DVS-6000C)
Option: DA-71 Board (DVS-6000), DA-72 Board (DVS-6000C), SD-30 Board (DVS-6000/6000C)



S1(A-5)/LE-118, LE-118A, DA-71, SD-30: D/A phase control switch

This switch is used for adjusting the clock phase, when change the digital signal input into input connector for check to the analog signal.
Factory setting: 1 (Rotary switch)

S2 (A-3)/LE-118, LE-118A, SD-30: System changing switch

In using DVS-6000C, this switch sets the system, to 525 system or 625 system.
After changing the setting, always reset the unit data.
Factory setting: 525 (Toggle switch)

S3 (A-3)/LE-118, LE-118A, SD-30: Reference input changing switch

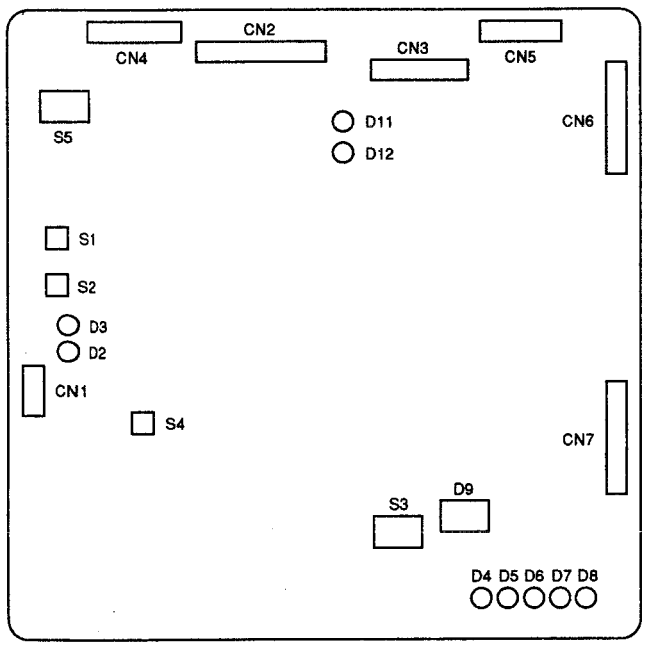
In using DVS-6000C, this switch sets the input signal to REF IN in the rear panel, to the black burst signal or synchronized signal.
Factory setting at shipment: BB IN (Toggle switch)

S400 (B-5)/SD-30: Reference output changing switch

In using DVS-6000C, this switch sets the output signal to REF IN in the rear panel, to the black burst signal or synchronized signal. (Only for 525 system)
Factory setting: BB OUT (Toggle switch)

(2) BKDS-6010

CPU-131 Board



- **SWITCH**

S1(A-8): RESET

CPU on the CPU-131 board is reset and all data on RAM is initialized, when this switch is pressed. By resetting CPU, the system returns to its initial operational settings and causes the program to start just as when the power is turned ON.

S2 (A-9): ABORT (main CPU abort) switch

This switch is for debug in factory. To press this switch in normal operating has no effect on the system.

S3 (K-17): System setting switch

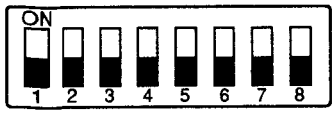
This switch sets the operating mode in the system, and has the following three modes.

At shipment, this switch is set to Operation Mode.

Note: ■ mark shows the switch position.

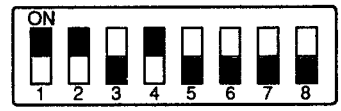
① Operation Mode (Setting at Shipment)

This setting is for operating normally.



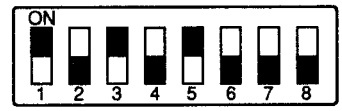
② Test Mode

This setting is for checking the system. In this checking, connect the RS-232C terminal to TERMINAL-1 connector in the rear panel of BKDS-6010.



③ Emergent Set-up Mode

BKDS-6010 is operating by the program on the flash memory. If the data of flash memory is damaged for some reason, the program is set up from ROM forcedly by this setting.



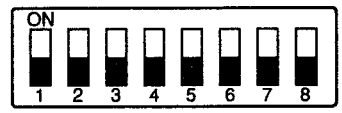
S4 (D-13): SUB ABORT (sub CPU abort) switch

This switch is for dabug in factory. To press this switch in normal operating has no effect on the system.

S5 (A-3): SUB CPU mode setting switch

This switch sets the operation mode of sub CPU.

Always use this switch without changing the setting at shipment.



- **Lamp**

D2 (A-10): HLT (CPU halt) lamp

This lamp lights when the main CPU operates abnormally and stops. When the main CPU operates normally, this lamp doesn't light.

D3 (D-3): RUN (CPU running) lamp

This lamp shows the operation status of the main CPU. The lamp lights (high-speed flashes) when the main CPU operates normally.

When the main CPU stops, this lamp doesn't light.

D4 (N-19): PROC (processor data receive) lamp

This lamp flashes when BKDS-6010 receives the data from DVS-6000/6000C.

D5 (N-19): TEST (TEST data receive) lamp

The lamp flashes when BKDS-6010 receives the data from external unit connected to the TEST connector in the rear panel of BKDS-6010.

D6 (N-19): STO (communi cation status) lamp

This lamp shows the communication status of CPU communicating with DVS-6000/6000C or the external unit connected to the TEST connector in the rear panel. This lamp doesn't light when the main CPU communicates normally.

This lamp lights when this CPU doesn't come into operation. This lamp flashes when the Dual Port RAM is abnormal between this CPU and main CPU.

D7 (N-14): M1 lamp

This lamp is not used.

D8 (N-14): M0 lamp

This lamp is not used.

D9 (M-17): Status display indicator

This indicator is not used.

D11 (H-3): SUB2 (Sub CPU status) lamp

This lamp lights when the sub CPU has no VD signal. This lamp doesn't light when the sub CPU is normal.

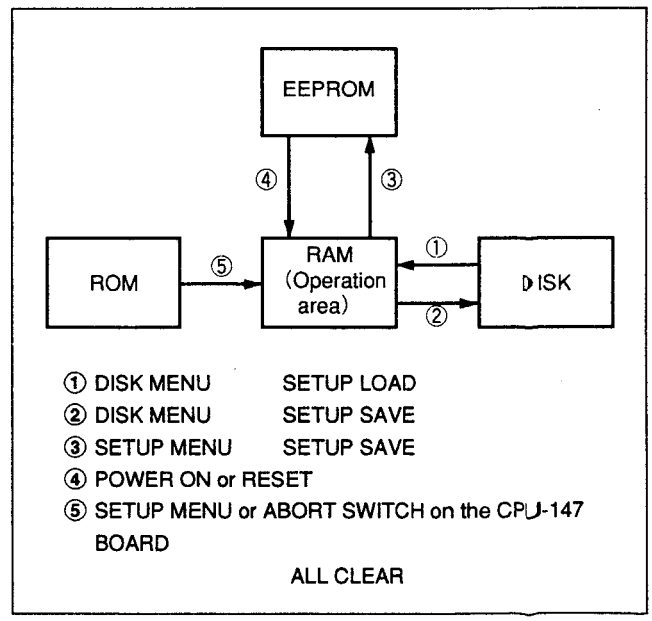
D12 (H-3): SUB3 (Sub CPU status) lamp

This lamp shows the operation status of the sub CPU. This lamp lights when the operation is abnormal. This lamp doesn't light when the operation is normal.

2-14. INITIAL SET-UP OF SYSTEM

Before setting-up for DVS-6000/6000C, the set-up data operating and saving of DVS-6000/6000C are described. A set-up data exist in four domains shown as follows.

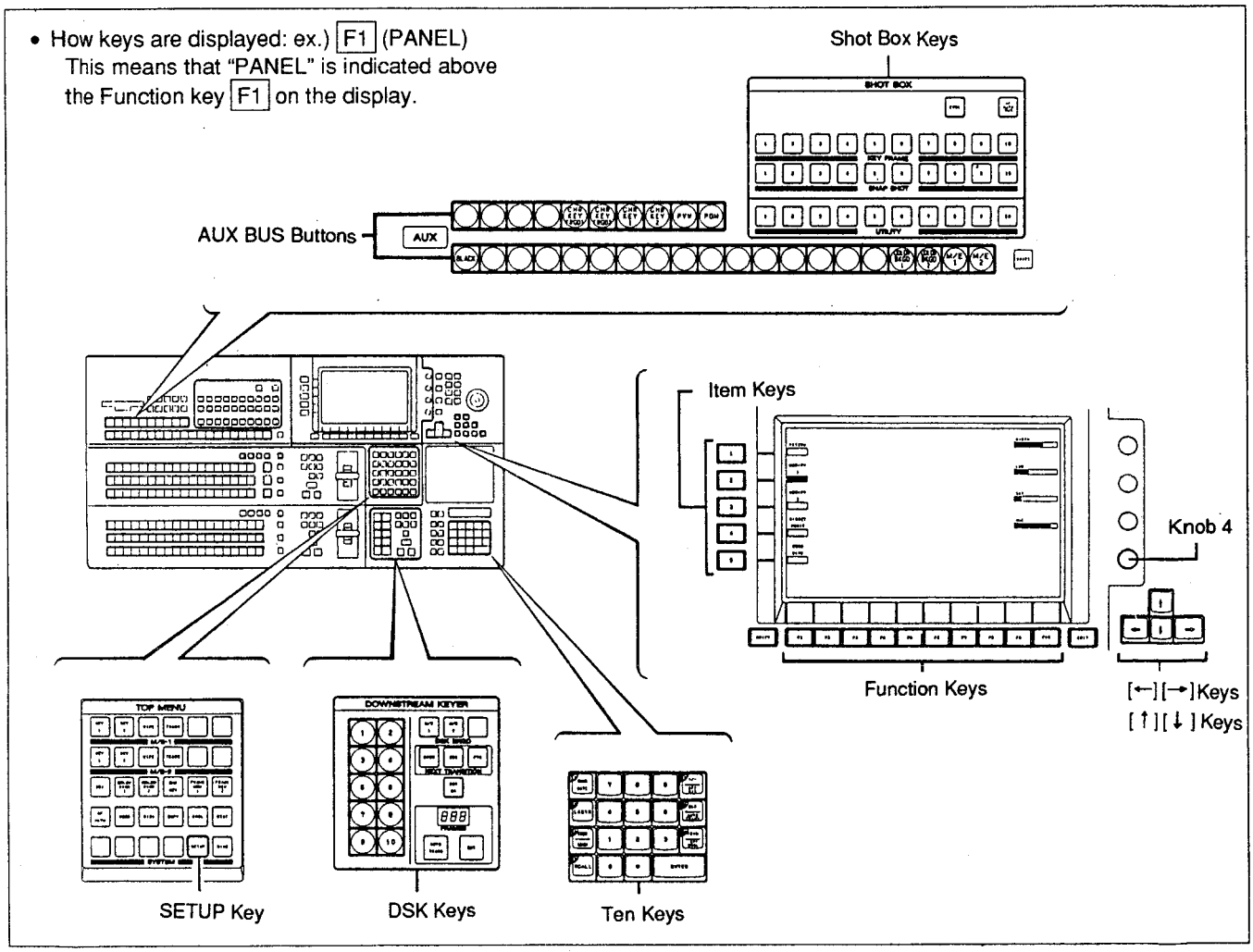
- RAM: This memory is operating domain. System is operating according to the set-up data on this memory. The set-up data is changed on this memory always.
  The power supply cut-off or system reset results in the loss of the set-up data on this memory. After turning on the power or resetting the system, the internal set-up data of EEPROM is expanded.
- EERROM: This is a nonvolatile memory which can save the data if the power is cut off.
- ROM: This memory permanently saves the basic set-up data in factory shipment. This memory is used when the system is reset up or EEPROM initialized in normal operating.
  In the case of calling the contents, initialize the system in set-up menu status, or press an abort switch on the CPU board.
- DISK: A disk is used for saving more permanently the set-up data saved in EEPROM, for transferring the set-up data to another editing space, or for keeping the data for oneself by operator.



Data Flow of DVS-6000/6000C Setup

Basic Information

This is shown as follows in this section.



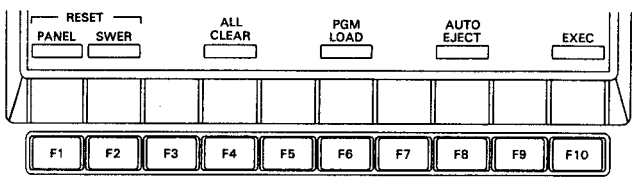
2-14-1. Loading Program

Before you use the DVS-6000/6000C's system, the operating program of the Operation Software BZS-6020 (Option) loads to the flash memory of the system.
The program on the flash memory do not clear by turning off or on the power.
If you finished the above process, you do not need the above process till you excute the version-up of the software.
The loading program has the two steps of "Down Load of Software" and "RAM and EEPROM Initialize".

STEP1: Down Load of Software

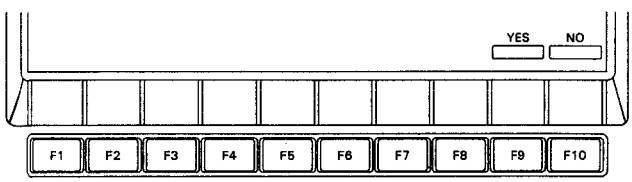
(1) Press the keys on the control panel in the following sequence in the menu screen status.
[SETUP], [1] (SYSTEM), [F6] (INITIALIZE)

The display for the Function keys changes as follows.

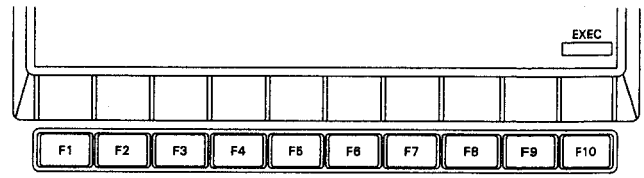


(2) Press [F6] (PGM LOAD) key, then [F10] (EXEC) key.
「Insert the OPERATING PROGRAM 1.」
is indicated on the display.

(3) Insert the OPERATING PROGRAM 1 (Switcher software) to the disk drive.
「Do You Want to Load the OPERATING PROGRAM?」
is indicated on the display, and then the display for the Function keys changes as follows.



(4) Press [F9] (YES) key.
Loading of program starts. The disk is ejected automatically when loading ends.
「Load Complete. Insert the OPERATING PROGRAM 2.」
is indicated, and then the display for the Function keys changes as follows.

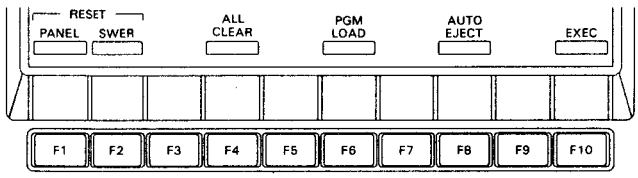


(5) Insert the OPERATING PROGRAM 2 (Control panel software) to the disk drive, then press [F10] (EXEC) key.
Loading starts, and the disk is ejected automatically when loading ends.
The Switcher and the Control panel return to the status when the power was turned on (reset status).

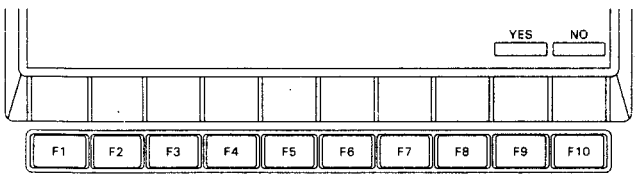
STEP2: "RAM" and "EEPROM" Initialize

(1) Press the keys on the control panel in the following sequence in the menu screen status.
[SETUP], [1] (SYSTEM), [F6] (INITIALIZE)

The display for the Function keys changes as follows.



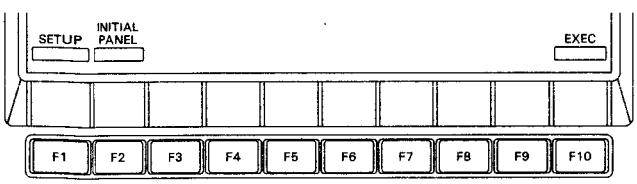
(2) Press [F4] (ALL CLEAR) key, then [F10] (EXEC) key.
「??????????????????????????」
is indicated on the display, and then the display for the Function keys changes as follows.



(3) Press [F9] (YES) key.
The system is cleared, the setup data (the default setup data) into the "ROM" is expanded on the "RAM", and the RAM is initialized.

(4) Press the keys on the control panel in the following sequence in the menu screen status.
[SETUP], [1] (SYSTEM), [F5] (SAVE)

The display for the Function keys changes as follows.



(5) Press [F1] (SETUP) key, then [F10] (EXEC) key. And press [F2] Key (INITIAL PANEL), then [F10] (EXEC) key. The data on the "RAM" is written into the "EEPROM", and the "EEPROM" is intialized.

NOTE: If you execute the loading program, the setup on the "EEPROM" is initialized for the default condition and the datum (snap shot and so on) on the "RAM" are cleared. When you execute the version-up of the software, execute the following processes.

- Before you execute the loading program
  Save the setup data, snap shot and key frame data into a floppy disk.

- After you finished the loading program
  ① Load the saved set-up data, snap shot and key frame data from the floppy disk.
  ② Save the loaded setup data at ① into the "EEPROM" using the SAVE menu of the SETUP menu.

For details of these processes, refer to the User's Guide BZS-6020.

2-14-2. Set-up

Set up the system.
The procedures that must be carried out to construct the system are described below.

The kinds of set-up have the following items.
(1) Checking the Software Version and Options
(2) Setting about the System
(3) Assigning the Crosspoint
(4) Assigning Key Sources for Key Fill
(By Key Source Auto Select Mode)
(5) Aligning the Input Signal
(6) Aligning the Output Signal 1
(7) Aligning the Output Signal 2
(8) Setting the Synchronized Signal Change of Assignment
(9) Setting the Assignable Output
(10) Setting the Internal Generation Matte Signal
(11) Setting the AUX Bus Control
(12) Setting the DME Interface
(13) Setting the GPI Input
(14) Setting the GPI Output
(15) Setting the Chroma Key (DVS-6000 only)

Note: When interrupting or terminating the set-up, and saving the data, carry out Section 2-14-3. Saving Set-up Data to EEPROM.

(1) Checking the Software Version and Options

① Press the keys on the control panel in the following sequence in the menu screen status.
[SETUP], [1] (SYSTEM), [F8] (INFORMATION)

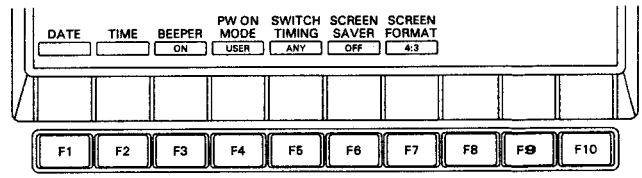
The software version and installed options are displayed.

② Check the version and option shown on the display.
Also, check that the signal format shown on the above-right side of the display is correct.

(2) Setting about the System

① Press the keys on the control panel in the following sequence in the menu screen status.
[SETUP], [1] (SYSTEM), [F3] (SYSTEM SETUP)

The display for the Function key changes as follows.



② Press [F1] (DATE) key, then input the date by the Ten key.
ex.) When setting to February 9, 1992
Press the keys in the following sequence.
[2], [•], [9], [•], [1], [9], [9], [2], [ENTER]

③ [F2] (TIME) key, then input the time by the Ten key.
ex.) When setting to 2:15 p.m. on time.
Press the keys in the following sequence.
[1], [4], [•], [1], [5], [•], ([0]), [ENTER]
In this case, pressing [0] can be omitted.

④ Press [F5] (SWITCH TIMING) key.
When you press [F5] key every time, the select timing (field) on the display changes in the following sequence.
DVS-6000:

ANY → EVEN → ODD → 1ST
↑ 4TH ← 3RD ← 2ND ←

DVS-6000C:

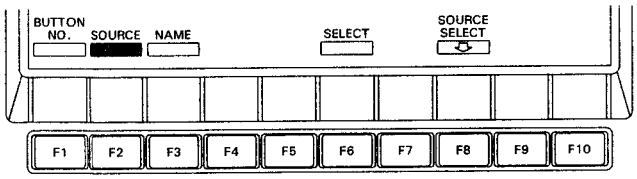
→ ANY → EVEN → ODD →

⑤ Press [F7] (SCREEN FORMAT) key.
If the system selects into the wide screen mode, select into 16:9.
(The DVS-6000 has not this select.)

(3) Assigning the Crosspoint

① Press the keys on the control panel in the following sequence in the menu screen status.
[SETUP], [2] (INPUT/OUTPUT), [F3] (XPT ASSIGN)

The display for the Function key changes as follows.



② Press [F2] (SOURCE) key.
The input source signal list is shown on the display.

③ While pressing [F1] (BUTTON No.) key, press Crosspoint button of the AUX Bus.
The Crosspoint button to be set is selected.
When assigning a button of the DSK section, press the button of DSK section while pressing [F1] (BUTTON No.) key.

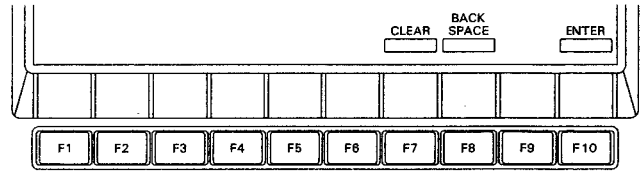
④ Press [F8] (SOURCE SELECT) key to move the cursor to the required source signal.

⑤ Press [F6] (SELECT) key.
When selecting "PRIMARY?", input the required number by the Ten key. (The number is input at ?-position.)

The crosspoint is assigned by the above procedure.
To name each button, carry out the following procedure of step ⑥.

⑥ Press [F3] (NAME) key.
The illustration of the button used when input the name, is shown on the display, then become the name input status.

The display for the Function key changes as follows.



[F7] (CLEAR): All input characters are deleted.
[F8] (BACK SPACE): One character before the cursor is deleted.

⑦ Press the corresponding button to the illustration on the display to input the name by the maximum eight characters.

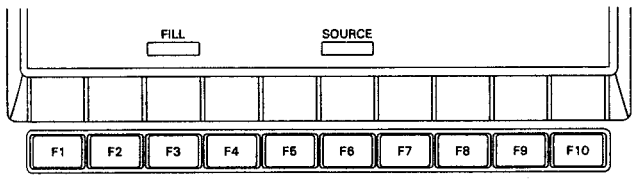
⑧ Press [F10] (ENTER) key.
The name is set. The screen returns to step ⑤ status.

⑨ Repeat from step ② to step ⑧, and assign the input signals to the all buttons.

(4) Assigning Key Sources for Key Fill (By key Source Auto Select Mode)

① Press the keys on the control panel in the following sequence in the menu screen status.
SETUP, 2 (INPUT/OUTPUT), F4 (AUTO SELECT)

The screen for the Function key changes as follows.



② While pressing F3 (FILL) key, press the Crosspoint button of the AUX Bus.
The key fill button to be set is selected.
When assign the button of DSK section, press the button of DSK section while pressing F3 (FILL) key.

③ While pressing F6 (SOURCE) key, press the Crosspoint button of the AUX Bus.
The key source signal assigned to the key fill button selected at step ② is selected.

④ Repeat steps ② and ③, and assign the key sources to the all key fill buttons.

(5) Aligning the Input Signal

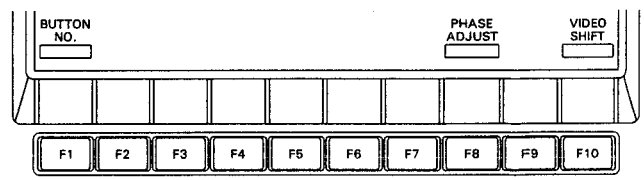
For the input signal alignment, the alignment procedure differs in the system and the input signal.
The kinds of alignment have the following three ways.

- In the case of alignment for digital input signal in composite system (DVS-6000)
- In the case of alignment for analog input signal in composite system (DVS-6000)
- In the case of alignment for digital input signal in component system (DVS-6000C)

• In the case of alignment for digtal input signal in composite system (DVS-6000)

① Press the keys on the control panel in the following sequence in menu screen status.
SETUP, 2 (INPUT/OUTPUT), F5 (INPUT CTRL), F10 (INPUT ADJUST)

The screen for the Function key changes as follows.



② While pressing F1 (BUTTON No.) key, press the Crosspoint button of the AUX Bus.
The Crosspoint button to be set is selected.
When assigning the button of the DSK section, press the button of DSK section while pressing F1 (BUTTON NO.) key.
The information of the selected input signal is shown on the display.

③ Press F8 (PHASE ADJUST) key.
Adjust the input H phase with the control 4.

④ Press F10 (VIDEO SHIFT) key.
The setting of VIDEO SHIFT changes to DSBL (DISABLE).

In the case that INV is shown on CF display

Adjust the color-frame phase so that this CF display changes to NORM in the side of external unit output this input signal.

In the case that INV is shown on CF display this adjustment cannot be carried out in the side of external unit

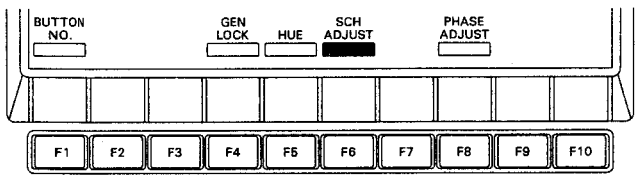
Press F10 (VIDEO SHIFT) key to change the setting of VIDEO SHIFT to ENBL (ENABLE).

⑤ Repeat from step ② to step ④, and select the all input signals.

- **Incase of adjustment the analog input signal in composite system (DVS-6000)**

① Press the keys on the control panel in the following sequence in menu screen status.
SETUP, 2 (INPUT/OUTPUT), F5 (INPUT CTRL), F10 (INPUT ADJUST)

The screen for the Function key changes as follows.



② While pressing F1 (BUTTON No.) key, press the Crosspoint button of the AUX Bus.
The crosspoint button to be set is selected.
When assign the button of DSK section, press the button of DSK section while pressing F1 (BUTTON No.) key.
The information of selected input signal is shown on the screen.

③ Press F4 (GEN LOCK) key.
Whenever pressing F3 key, the setting is changed to AUTO or SYNC.

④ Press F5 (HUE) key.
Adjustment the HUE values with the control 4.

⑤ Press the F6 (SCH ADJUST) key.
Adjust so that the SCH ADJUST indication changes to the black square (■) with the control 4.
Note: This adjustment is properly carried out in the side of external unit outputting this input signal. So in this adjustment, modify the adjustment only.

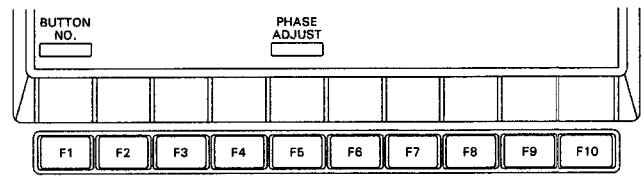
⑥ Press F8 (PHASE ADJUST) key.
Adjust the input H phase with the control 4.

⑦ Repeat from step ② to step ⑥, and select the all input signals.

- **In the case of alignment of digital input signal in component system (DVS-6000C)**

① Press the keys on the control panel in the following sequence in menu screen status.
SETUP, 2 (INPUT/OUTPUT), F5 (INPUT CTRL), F10 (INPUT ADJUST)

The screen for the Function key changes as follows.



② While pressing the F1 (BUTTON No.) key, press the Crosspoint button of the AUX Bus.
The crosspoint button to be set is selected.
When assign the button of DSK section, press the button of DSK section while pressing F1 (BUTTON No.) key.
The information of selected input signal is shown on the screen.

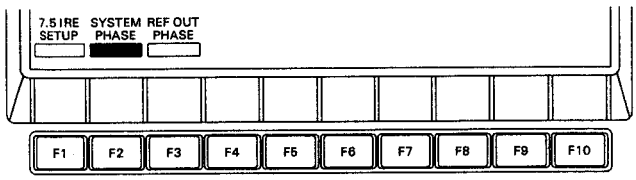
③ Press the F5 (PHASE ADJUST) key.
Adjust the input H phase with the control 4.

④ Repeat steps ② and ③, and select the all input signals.

(6) Aligning the Output Signal 1

① Press the keys on the control panel in the following sequence in menu screen status.
SETUP, 2 (INPUT/OUTPUT), F6 (OUTPUT CTRL), F9 (OUTPUT1 ADJUST)

The screen for the Function key changes as follows.



② Press F1 (7.5 IRE SETUP) key.
Whenever pressing the F1 key, the setting of set-up changes, ON or OFF.
(DVS-6000C doesn't have this setting function.)

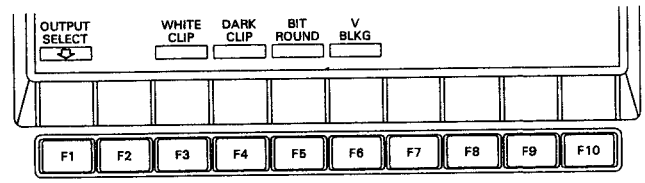
③ Press F2 (SYSTEM PHASE) key.
Adjust the system phase with the control 4.

④ Press F3 (REF OUT PHASE) key.
Adjust the synchronized output phase with the control 4.

(7) Aligning the Output Signal 2

① Press the keys on the control panel in the following sequence in the menu screen status.
SETUP, 2 (INPUT/OUTPUT), F6 (OUTPUT CTRL), F10 (OUTPUT2 ADJUST)

The screen for the Function key changes as follows.



② Press F1 (OUTPUT SELECT) key to move the cursor to the output to be set.

③ Press F3 (WHITE CLIP) key.
Adjust the white clip value of the luminance signal with control 4.

④ Press F4 (DARK CLIP) key.
Adjust the dark clip value of the luminance signal with control 4.

⑤ Press F5 (BIT ROUND) key.
Whenever F5 is pressed, the 10 bit/8 bit converting function changes ON or OFF.

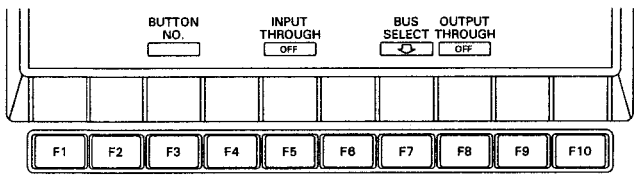
⑥ Press F6 (V BLKG) key.
Adjust the V blanking width with control 4.

⑦ Repeat from step ② to step ⑥, and select the all output signals.

(8) Setting the Synchronized Signal Change of Assignment

① Press the keys on the control panel in the following sequence in menu screen status.
[SETUP], [2] (INPUT/OUTPUT), [F7] (THRU MODE)

The screen for the Function key changes as follows.



② While pressing [F3] (BUTTON No.) key, press the Crosspoint button of AUX Bus.
The crosspoint button to be set is selected.
When assigning the button of the DSK section, press it while pressing [F3] (BUTTON No.).

③ Press [F5] (INPUT THROUGH) key.
Whenever pressing [F5] key, the setting of through mode changes, ON or OFF.

④ Repeat steps ② and ③, and select the all input signals.

⑤ Press [F7] (BUS SELECT) key to move the cursor to the output to be set.

⑥ Press [F8] (OUTPUT THROUGH) key.
Whenever pressing [F8] key, the output setting of through mode changes, ON or OFF.

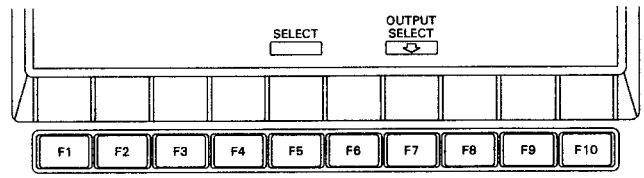
⑦ Repeat steps ⑤ and ⑥, and select the all output signals.

Note: In the through mode, the sync signal added to the input signal is output as it is only if both the input and output are digital signals and both through modes are ON.
The signal (COLOR BKGD, PLACK, etc.) generated inside the switcher is unconditionally added to the sync signal also generated inside.

(9) Setting the Assignable Output

① Press the keys on the control panel in the following sequence in the menu screen status.
[SETUP], [2] (INPUT/OUTPUT), [F8] (ASSIGN OUTPUT)

The screen for the Function key changes as follows.



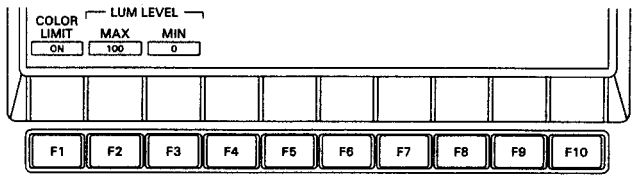
② Press [F7] (OUTPUT SELECT) key to move the cursor to the output to be set to the assignable output.

③ Press [F5] (SELECT) key.
The output is confirmed.

(10) Setting the Internal Generation Matte Signal

① Press the keys on the control panel in the following sequence in the menu screen status.
SETUP, 3 (EFFECT), F5 (MATTE)

The screen for the Function key changes as follows.



② Press F1 (COLOR LIMIT) key.
Whenever pressing F1 key, the setting of irregal color limiter changes, ON or OFF.

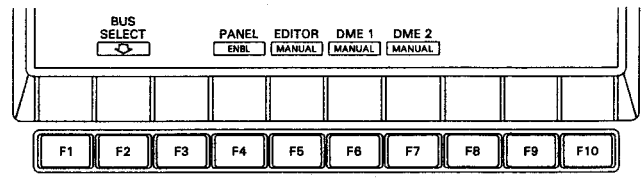
③ Press F2 (MAX) key.
Whenever pressing F2 key, the maximum value of luminance level changes.

④ Press F3 (MIN) key.
Whenever pressing F2 key, the minimum value of liminance level changes.

(11) Setting the AUX Bus Control

① Press the keys on the control panel in the following sequence in menu screen status.
SETUP, 4 (PERIPH), F3 (AUX CTRL)

The screen for the Function key changes as follows.



② Press F2 (BUS SELECT) key to move the cursor to the bus to be set.

③ Press F4 (PANEL) key.
Whenever pressing F4 key, the setting of the control from control panel changes, ENABLE or DISABLE.

④ Press F5 (EDITOR) key.
Whenever pressing F5 key, the setting of the control from editor changes, ENABLE, DISABLE or MANUAL.

⑤ Press F6 (DME1) key.
Whenever pressing F6 key, the setting of the control from DME1 connector in the switcher rear panel changes, ENABLE, DISABLE or MANUAL.

⑥ Press F7 (DME2) key.
Whenever pressing F7 key, the setting of the control from DME2 connector in the switcher rear panel changes, ENABLE, DISABLE or MANUAL.

⑦ Repeat form step ② to step ⑥, and select the all buses.

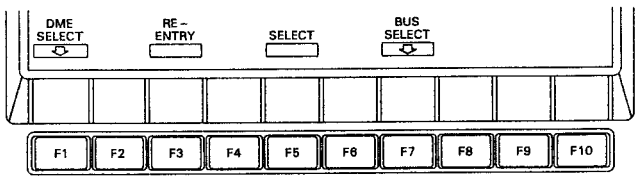
Note

ENABLE: AUX Bus can be controlled at all times
DISABLE: AUX Bus cannot be controlled
MANUAL: Settles the ENABLE/DISABLE of the control of the AUX Bus according to the setting of the ENABLE menu.

(12) Setting the DME Interface

① Press the keys on the control panel in the following sequence in the menu screen status.
SETUP, 4 (PERIPH), F6 (DME IF)

The screen for the Function key changes as follows.



② Press F1 (DME SELECT) key to move the cursor to the DME input/output signal to be set.

③ Press F7 (BUS SELECT) key to move the cursor to the AUX BUS number connected to the DME input signal selected at step ②.

④ Press F5 (SELECT) key.

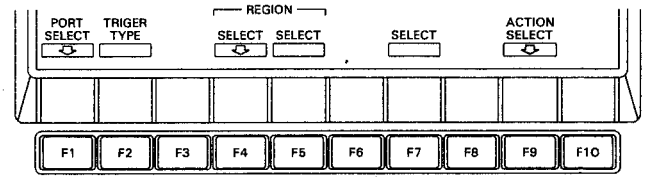
⑤ While pressing F3 (RE-ENTRY) key, press the crosspoint button of the AUX Bus.
The crosspoint button selected at step ② for inputing the DME output signal is selected.

⑥ Repeat from step ② to step ⑤, and select the four DME signals.

(13) Setting the GPI Input

① Press the keys on the control panel in the following sequence in the menu screen status.
SETUP, 4 (PERIPH), F4 (GPI IN)

The screen for the Function key changes as follows.



② Press F1 (PORT SELECT) key to move the cursor to the required input port.

③ Press F2 (TRIGER TYPE) key.
Whenever F2 key is pressed, the polarity of the trigger changes in the following four ways.

: Triggered at the rising edge of the input pulse.

: Triggered at the falling edge of the input pulse.

: Triggered at the reversal (edge) of the input pulse.

NOP : Not triggered by the input pulse.

④ Press F4 (REGION SELECT) key to move the cursor to your required block (M/E-1 or M/E-2).
If the selects of the all blokcs are same, press F5 (REGION ALL) Key.

⑤ Press F7 (ACTION SELECT) to move the cursor to the operation menu that should be started by the trigger.

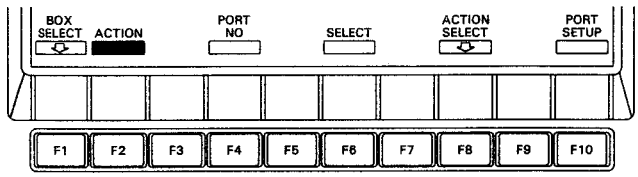
⑥ Press F5 (SELECT) key.
The operation is set. If you selected "S.S RECALL?", "EFF RECALL?" or "RECALL?&RUN", input resistor numbers using the ten keys.

⑦ Repeat the steps ④, ⑤ and ⑥ to set the required operation in the input port.

(14) Setting the GPI Output

① Press the keys on the control panel in the following sequence in the menu screen status.
SETUP, 4 (PERIPH), F5 (GPI OUT)

The screen for the Function key changes as follows.



② Press F1 (BOX SELECT) key to move the cursor to your required GPI BOX number.

③ Press F2 (ACTION) key.
The started operation list of GPI BOX is shown on the display.

④ Press F8 (ACTION SELECT) key, and move the cursor to start the your selected GPI BOX at ②.

⑤ Press F6 (SELECT) key.

⑥ Press F4 (PORT NO) key.
The GPI output port list is shown on the display.
At this time, F8 will change to (PORT SELCET).

⑦ Press F8 (PORT SELCET) key to move the cursor to your required output port in that GPI BOX.

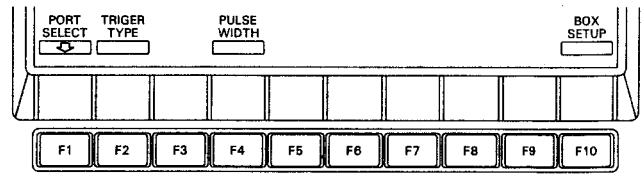
⑧ Press F6 (SELECT) key.

⑨ Repeat the steps ⑦ and ⑧, and set the port number to enter the your selected the GPI BOX at ②.

⑩ Repeat from ② to ⑨, and select the all GPI BOXes.

⑪ Press F10 (PORT SETUP) key.

The screen for the Function key changes as follows.



⑫ Press F1 (PORT SELECT) key to move the cursor to your required GPI port number.

⑬ Press F2 (TRIGER TYPE) key.
Whenever F2 is pressed, the polarity of the trigger changes in the following four ways.

: The relay opens at the startup of the output and is kept only for the time of the pulse width.

: The relay closes at the startup of the output and is kept only for the time of the pulse width.

: The relay opens and closes every time the output starts up.

NOP : Not triggered by the startup of the output.

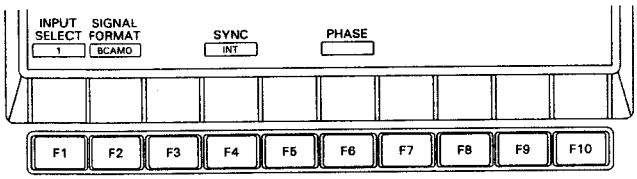
⑭ Press F4 (PULSE WIDTH) key, then adjust the width of the trigger pulse with the control **4**.

⑮ Repeat from ⑫ to ⑭, and select the all ports.

(15) Setting the Chroma Key
(DVS-6000C doesn't have this setting function.)

① Press the keys on the control panel in the following sequence in the menu screen status.
SETUP, 3 (EFFECT), F6 (CHR KEYER)

The screen for the Function key changes as follows.



② Press F1 (INPUT SELECT) key to select the chroma key input channel to "1".

③ Press F2 (SIGNAL FORMAT) key to select the format.
Whenever pressing F2 key, the setting of format changes in the following four ways.

ß-CAM(0)→ß-CAM(7.5)→RGB→SMPTE

④ Press F4 (SYNC) key.
Whenever pressing F4 key, the setting changes, INT or EXT.

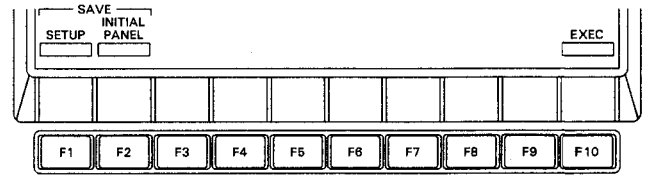
⑤ Press F6 (PHASE ADJUST) key, then adjust the H phase of chroma Key input with the control 4.

⑥ Press F1 (INPUT SELECT) key to select the chroma key input channel to "2".
Repeat from ③ to ⑤, and select the all chroma keys.

2-14-3. Saving Set-up Data to EEPROM

(1) Press the keys on the control panel in the following sequence in menu screen status.
SETUP, 1 (SYSTEM), F5 (SAVE)

The screen for the Function key changes as follows.



(2) Press F1 (SETUP) key, then F10 (EXEC) key.

The set-up required in constructing the system is terminated. DVS-6000/6000C has many set-up systems besides these settings.
For the contents, see an User Guide supplied the following option as accessories.
And according to the require, the contents of the set-up can be saved to Floppy Disk. For this operation, see the User Guide.

User Guide
BZS-6010 (JAPANESE)
BZS-6020 (ENGLISH)
BZS-6030 (GERMAN): To be available soon.
BZS-6040 (FRENCH): To be available soon.

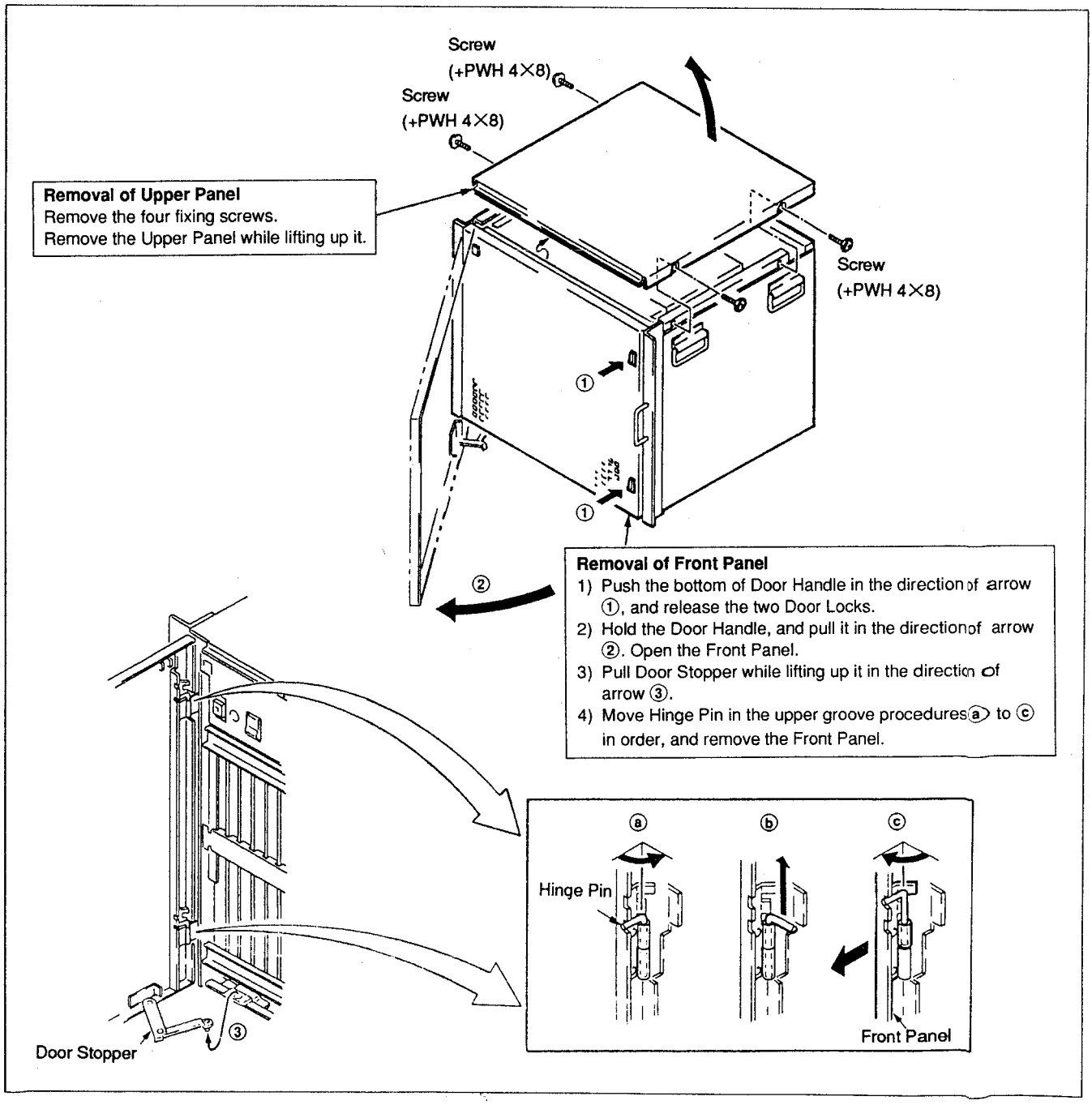
SECTION 3
SERVICE INFORMATION

3-1. REMOVAL FROM RACK (DVS-6000/6000C)

Disconnect all cables from Connector Panel. Remove the rack mounting screws. Pull out the handle of angle.

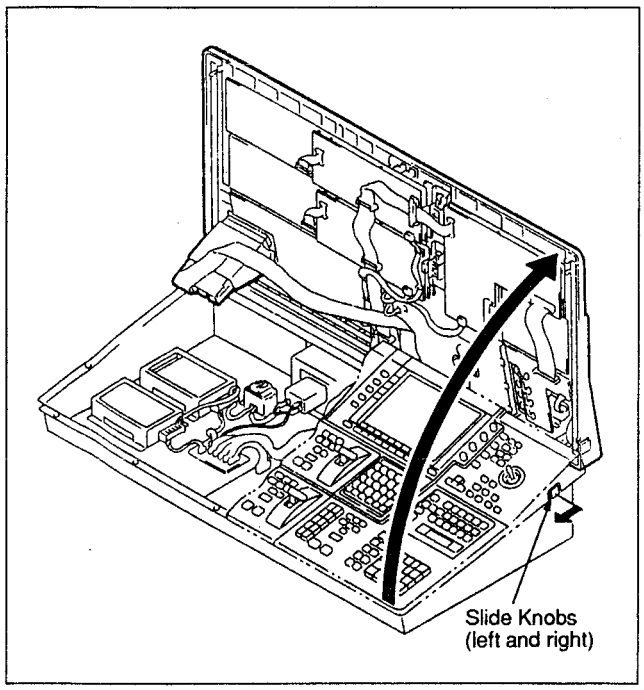
Note: Pull out the unit from the rack with somebody's help for fall prevention.

3-2. OPENING/CLOSING/REMOVAL OF PANELS (DVS-6000/6000C)


Screw
(+PWH 4×8)
Screw
(+PWH 4×8)
Removal of Upper Panel
Remove the four fixing screws.
Remove the Upper Panel while lifting up it.
Screw
(+PWH 4×8)
①
①
②
Removal of Front Panel
1) Push the bottom of Door Handle in the direction of arrow ①, and release the two Door Locks.
2) Hold the Door Handle, and pull it in the direction of arrow ②. Open the Front Panel.
3) Pull Door Stopper while lifting up it in the direction of arrow ③.
4) Move Hinge Pin in the upper groove procedures ⓐ to ⓒ in order, and remove the Front Panel.
③
Door Stopper
ⓐ
ⓑ
ⓒ
Hinge Pin
Front Panel

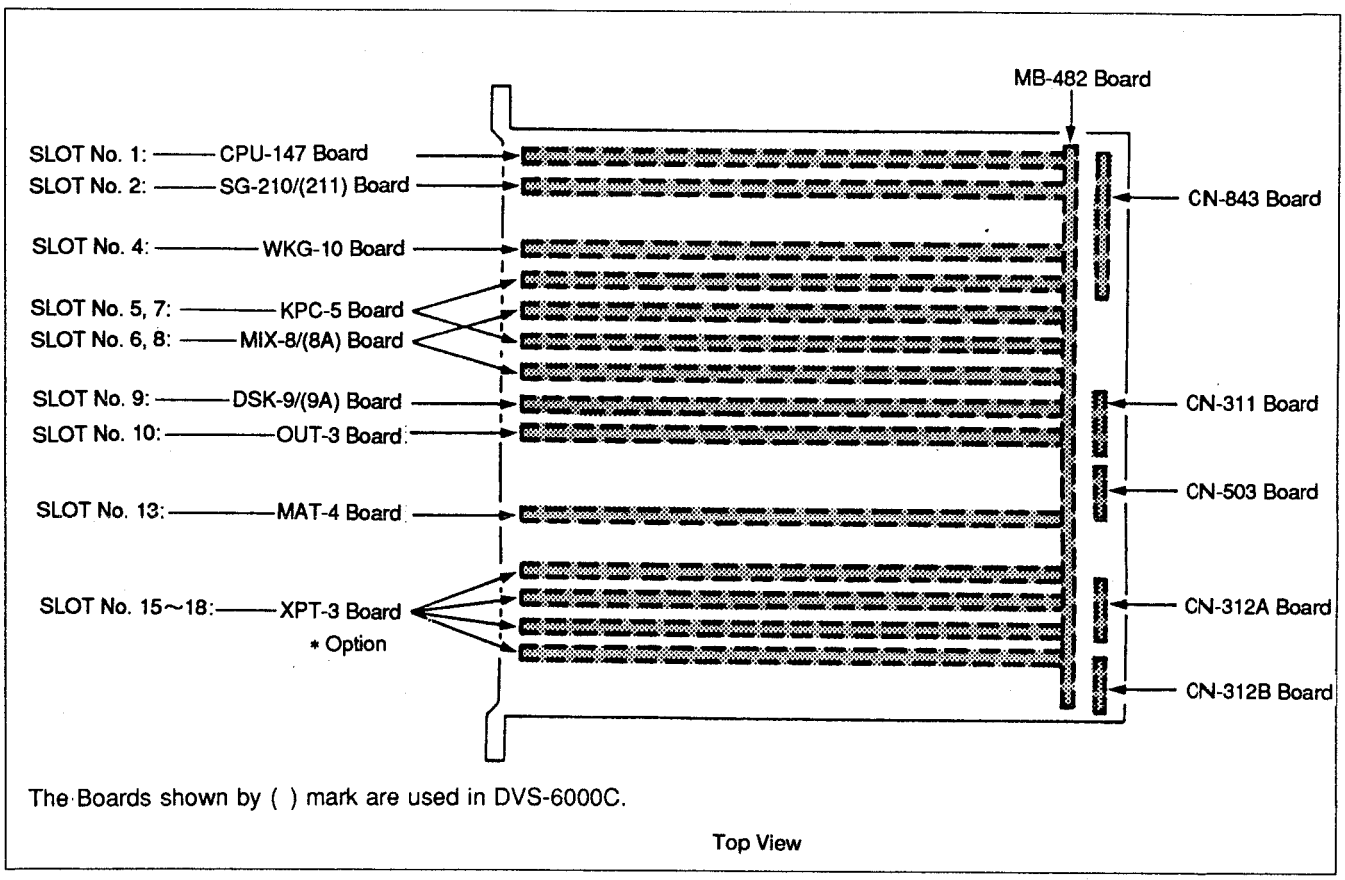
3-3. OPENING/CLOSING OF PANEL (BKDS-6010)

(1) Pull two slide knobs at each side of the Front Panel on this side.
(2) Push up the Panel, and open it.



3-4. LOCATION OF PRINTED CIRCUIT BOARDS

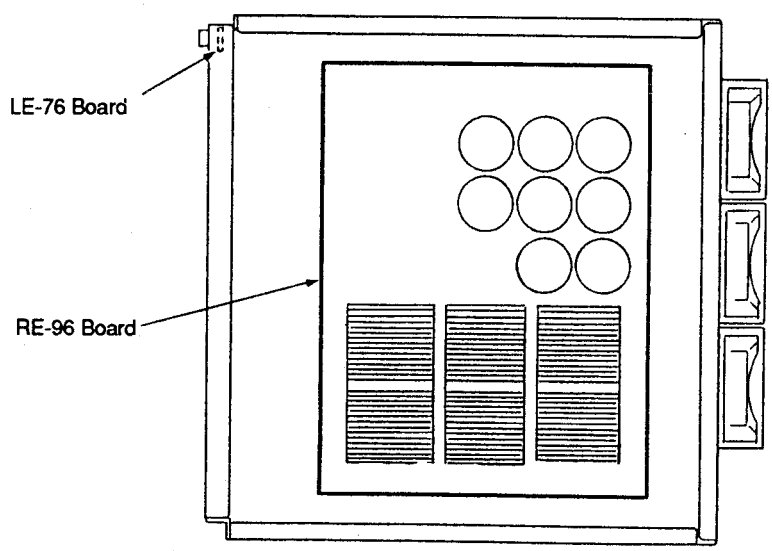
(1) DVS-6000/6000C



The Boards shown by ( ) mark are used in DVS-6000C.

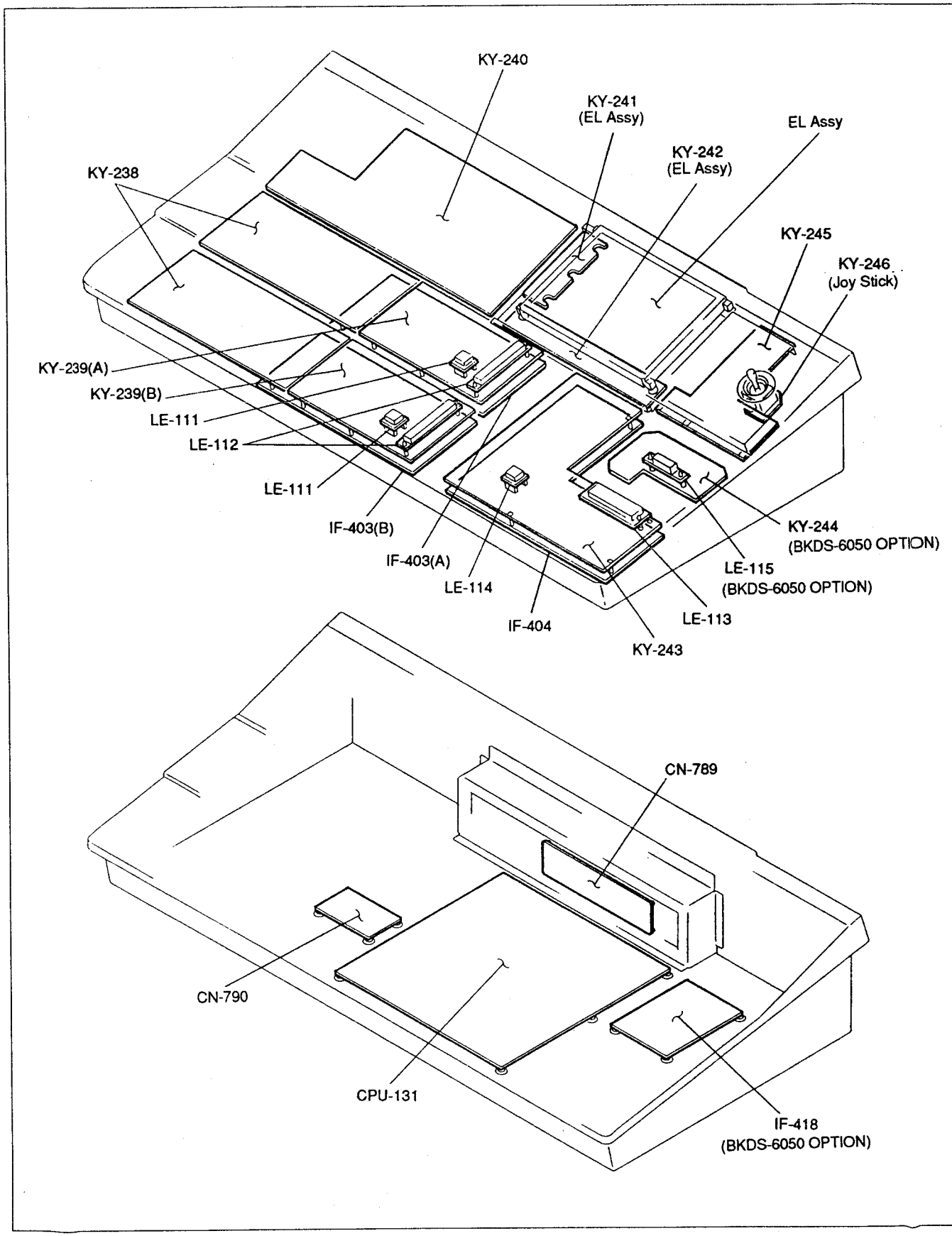
Top View

(2) Power Unit



Top View

(3) BKDS-6010


KY-240
KY-241
(EL Assy)
EL Assy
KY-242
(EL Assy)
KY-238
KY-245
KY-246
(Joy Stick)
KY-239(A)
KY-239(B)
LE-111
LE-112
LE-111
IF-403(B)
IF-403(A)
LE-114
IF-404
KY-243
LE-113
LE-115
(BKDS-6050 OPTION)
KY-244
(BKDS-6050 OPTION)
CN-789
CN-790
CPU-131
IF-418
(BKDS-6050 OPTION)

3-5. CIRCUIT INFORMATION

(1) DVS-6000/6000C

	No.	Board Name	Function
Card Board	1	CPU-147	CPU
	2	SG-210(211)	SYNC GENERATOR
	4	WKG-10	BASIC WIPE
	5, 7	KPC-5	KEY PROCESSOR
	6, 8	MIX-8 (8A)	MIXER
	9	DSK-9 (9A)	DSK(DOWNSTREAM) KEYER
	10	OUT-3	OUTPUT PROCESSOR
	13	MAT-4	MATTE GENERATOR
	15-18	XPT-3 *Option	SERIAL DIGITAL INPUT/ANALOG INPUT
Inside Board		MB-482	MOTHER
		CN-843	CONTROL CONNECTOR
		CN-311	OUTPUT CONNECTOR
		CN-312A	PRIMARY INPUT CONNECTOR (A)
		CN-312B	PRIMARY INPUT CONNECTOR (B)
		CN-503	CHROMA KEY INPUT CONNECTOR
		LE-76	POWER LED
		RE-96	POWER SUPPLY

Notes

1. The Boards shown by ( ) mark are used in DVS-6000C. The Boards without ( ) mark are used in both DVS-6000 and DVS-6000C.
2. The board's name in the Circuit Information are standard Boards. Refer to Section 2-5-2. Installation of Card Boards for the details about the Option Boards.

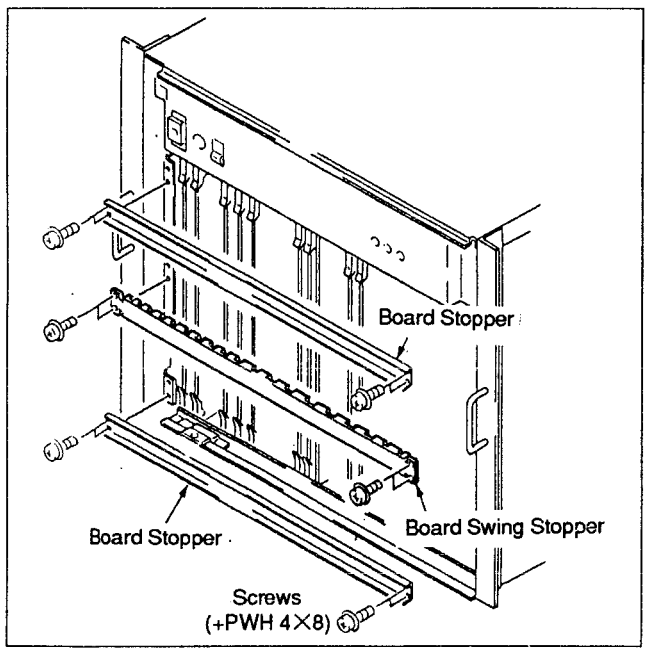
(2) BKDS-6010

Board Name	Function
KY-238	SWITCH
KY-239A	
KY-239B	
KY-240	
KY-241	
KY-242	
KY-243	
KY-244 *Option	
KY-245	
KY-246	
IF-403A	SWITCH INTERFACE
IF-403B	
IF-404	
IF-418 *Option	
CPU-131	SYSTEM CONTROL
LE-111	LED
LE-112	
LE-113	
LE-114	
LE-115 *Option	
CN-789	CONNECTOR
CN-790	

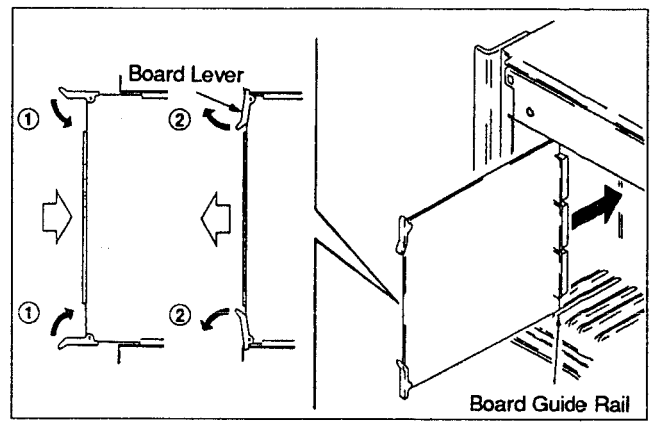
3-6. REMOVAL/INSTALLATION OF BOARDS

- **DVS-6000/6000C**

(1) Remove the Front Panel in the procedures shown in Section 3-2.
(2) Remove the twelve screws securing the two Board Stoppers and one Board Swing Stopper.

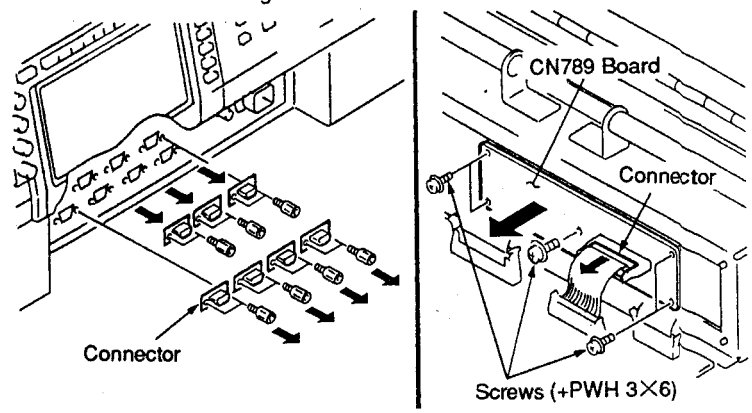
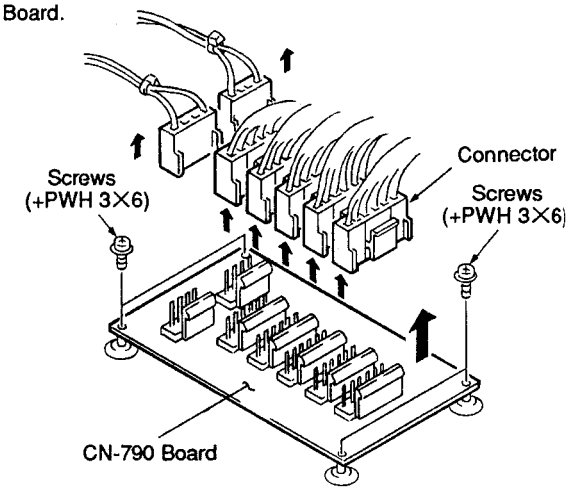
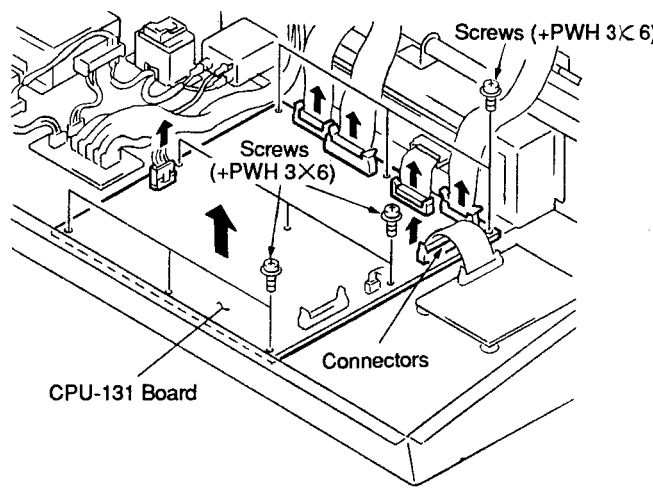


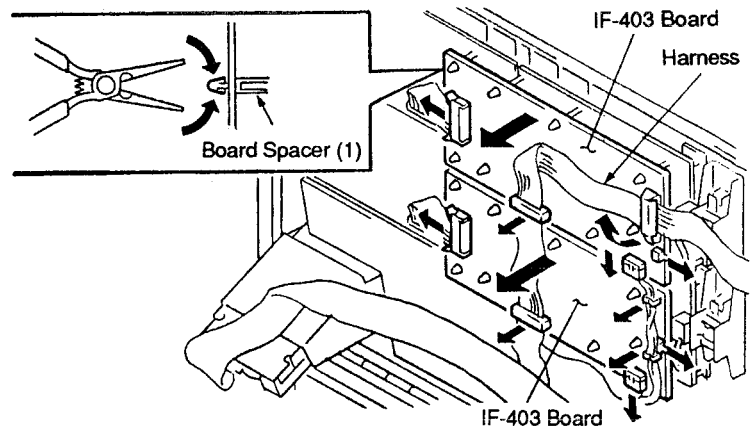
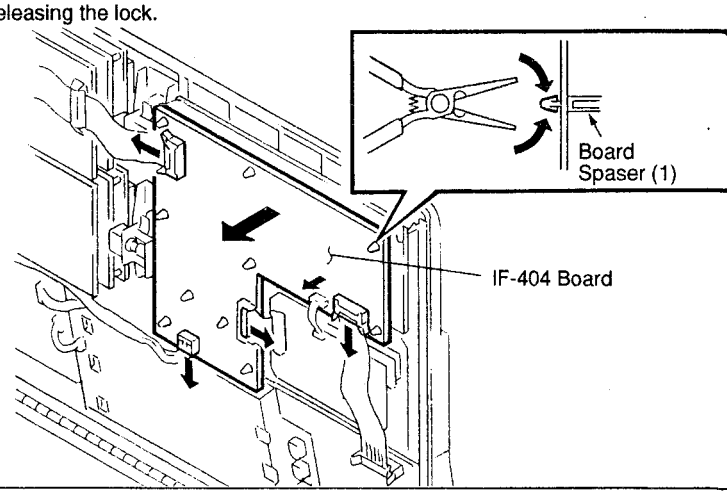
(3) Insert the Board in the unit along Board Guide Rail. Push the Board while supporting the Board Lever in parallel. Press the Board Lever in the direction of arrow ①, and install the Board.
(4) For the Removal of the Board, press the Board Lever in the direction of arrow ② and pull the board on this side.

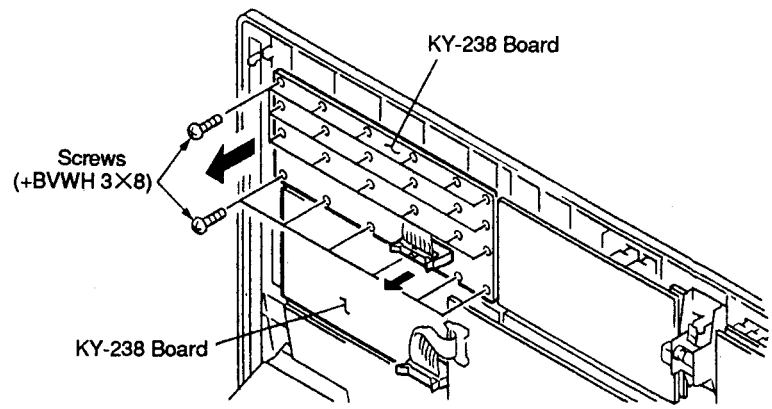
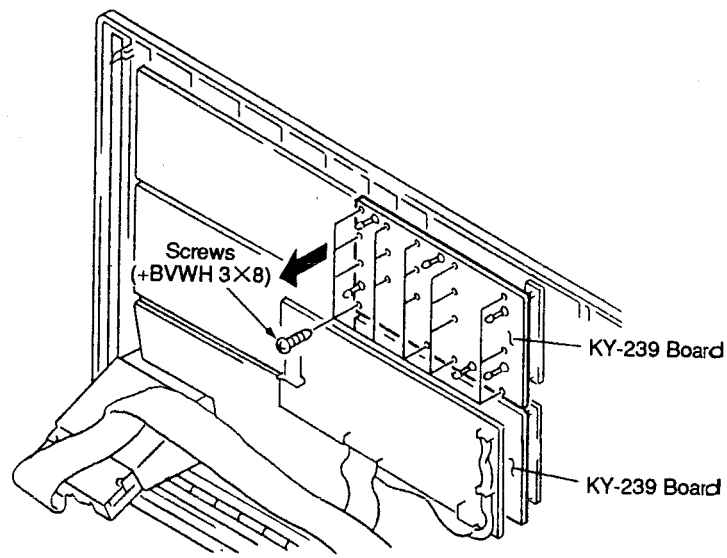
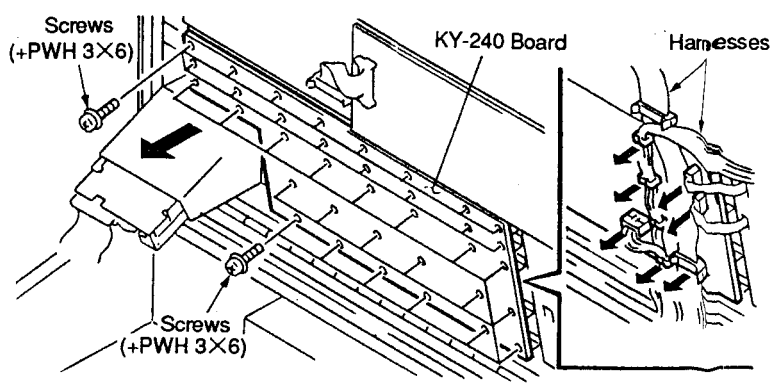


Note: After installing the Board, check that the connector push against the MB-482 Board.

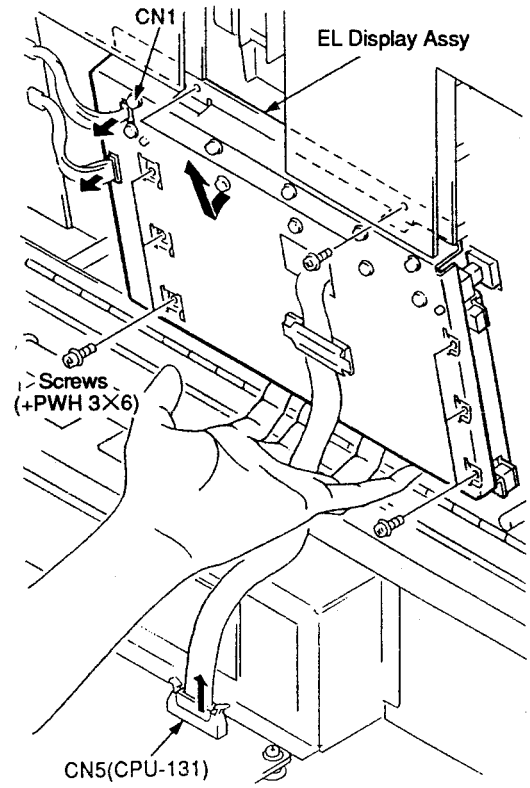
• **BKDS-6010**

Board Name	Removal Position		Description
	Fixing Screw	Connector	
CN-789	5 (+PWH 3 × 6)	1	① Disconnect the connector of the CN-789 Board. ② Unsolder all terminals of seven connectors (9P) on the Connector Panel. ③ Remove the screw securing the CN-789 Board. 
CN-790	4 (+PWH 3 × 6)	7	Disconnect the connector of the CN-789 Board. Remove the screws shown by arrows on the Board. 
CPU-131	9 (+PWH 3 × 6)	6	Disconnect the connector of the CPU-131 Board. Remove the screws shown by arrows on the Board. 

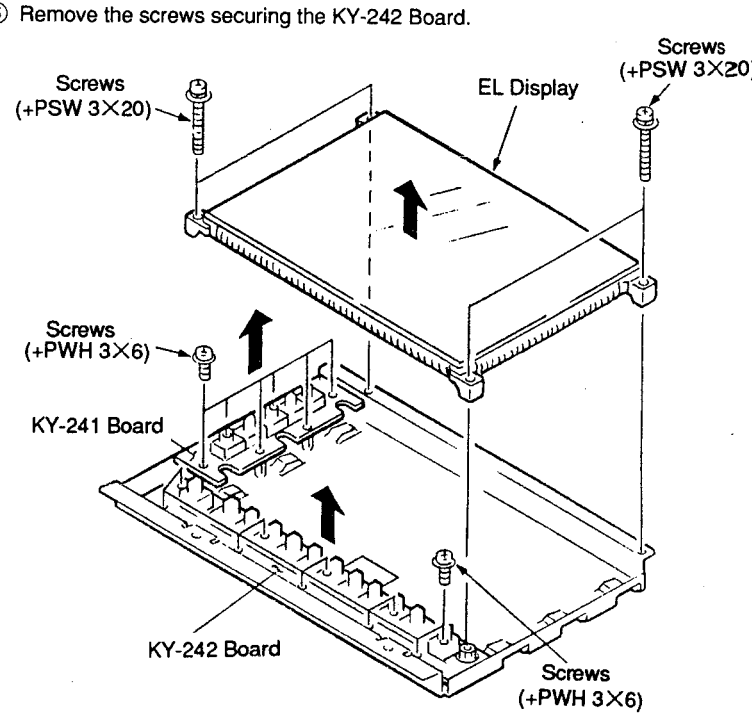
Board Name	Removal Position		Description
	Fixing screw	Connector	
IF-403A/403B	8 (Insertion Type)	4	Disconnect the connectors and harnesses on the two IF-403 Boards from the Clamp. Pick the top of the Board Spacer (1) using a Long Noise Pliers. Pull out the Board while releasing the lock. 
IF-404	10 (Insertion Type)	5	Disconnect the connectors and harnesses on the IF-404 Board from the Clamp. Pick the top of the Board Spacer (1) using a Long Noise Pliers. Pull out the Board while releasing the lock. 

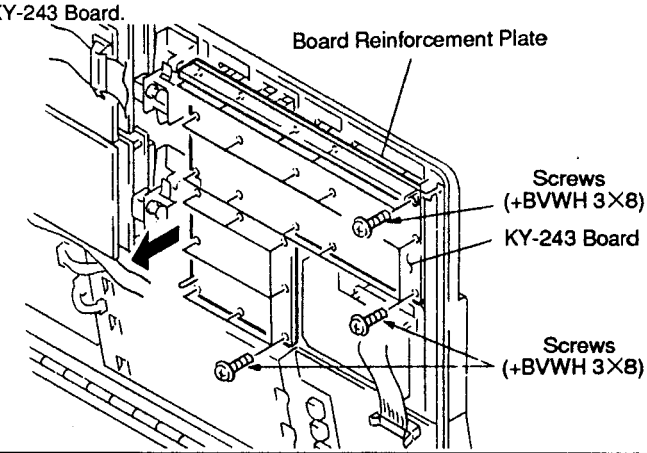
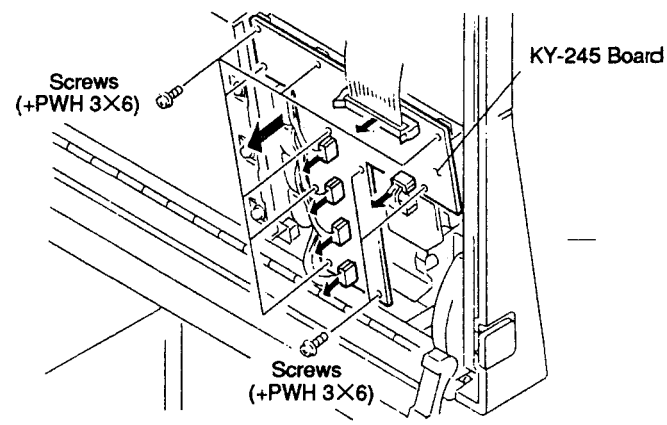
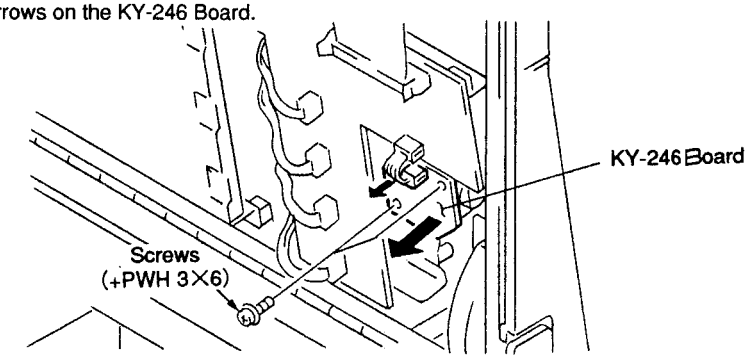
Board Name	Removal Position		Description
	Fixing Screw	Connector	
KY-238	24 (+BVWH 3 × 8)	1	Disconnect all connectors of the IF-403 Board. Remove the screws shown by arrows on the KY-238 Board. 
KY-239A/239B	18 (+BVWH 3 × 8)	–	Disconnect all Connectors of the two IF-403 Boards. Remove the screws shown by arrows on the KY-239A (or KY-239B) Board. 
KY-240	38 (+PWH 3 × 6)	4	Disconnect the connectors and harnesses of the KY-240 Board from the clamp. Remove the screws shown by arrows on the Board. 

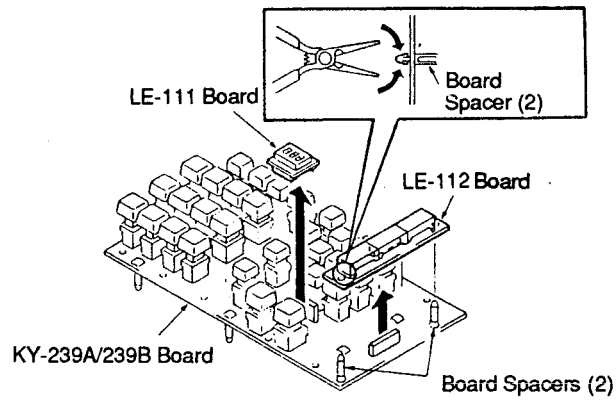
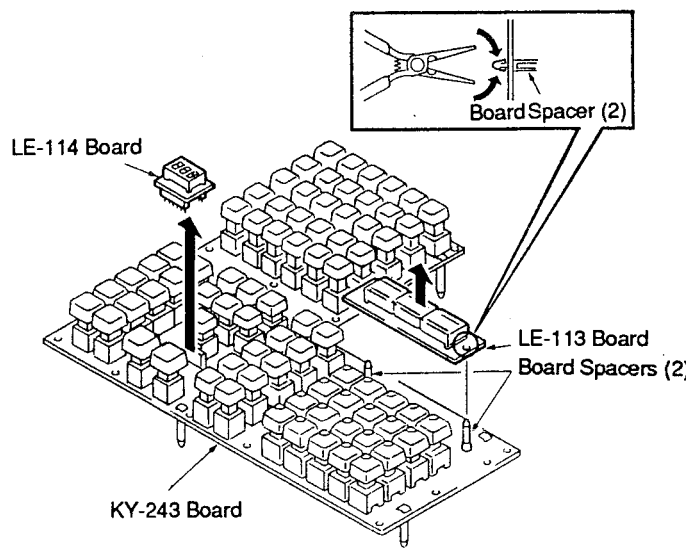
Board Name	Removal Position		Description
	Fixing Screw	Connector	
KY-241	6 (+PWH 3 × 6)	1	① Disconnect the two connectors (CN1) of EL Display Ass'y and one connector (CN5) of the CPU-131 Board. ② Remove the eight screws securing the EL Display Ass'y.
KY-242	10 (+PWH 3 × 6)	1	



③ Remove the screws securing the KY-241 Board.
④ Remove the four screws securing EL Display.
⑤ Remove the screws securing the KY-242 Board.



Board Name	Removal Position		Description
	Fixing Screw	Connector	
KY-243	23 (+BVWH 3 × 8)	–	Disconnect all connectors of the IF-404 Board. Remove the screws shown by arrows on the KY-243 Board. 
KY-245	10 (+PWH 3 × 6)	6	Disconnect the connectors of the KY-245 Board. Remove the screws shown by arrows on the KY-245 Board. 
KY-246	2 (+PWH 3 × 6)	1	Disconnect the connector of the KY-246 Board. Remove the screws shown by arrows on the KY-246 Board. 

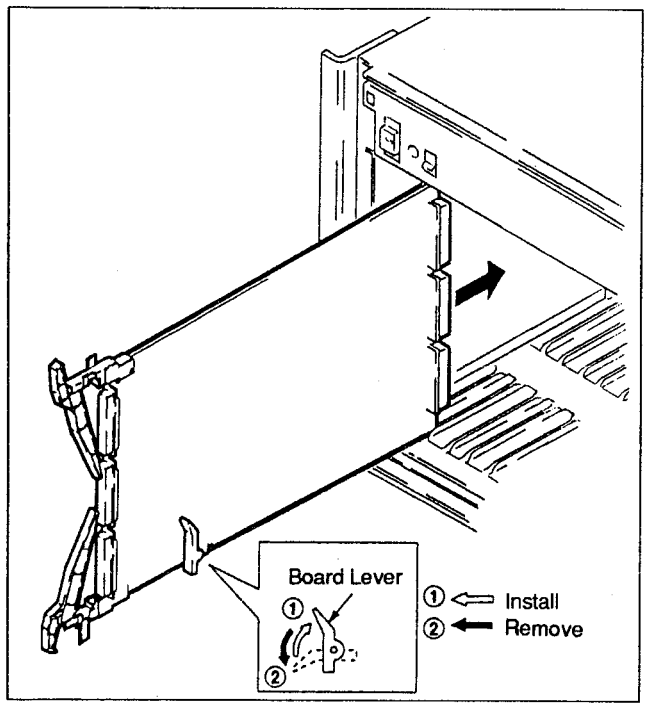
<table>
<tr><th rowspan="2">Board Name</th><th colspan="2">Removal Position</th><th rowspan="2">Description</th></tr>
<tr><th>Fixing Screw</th><th>Connector</th></tr>
<tr><td>LE-111</td><td>–</td><td>–</td><td rowspan="2">① Disconnect all connectors of the two IF-403 and one KY-239A or KY-239B Boards. Pick the top of the Board Spacer (2) using a Long Noise Pliers. Remove the LE-112 Board while releasing the lock.
② Remove the two IF-403 and one KY-239 Boards, and pull out the LE-112 Board.
 
</td></tr>
<tr><td>LE-112</td><td>2
(Insertion Type)</td><td>–</td></tr>
<tr><td>LE-113</td><td>2
(Insertion Type)</td><td>–</td><td rowspan="2">① Disconnect all connectors of the IF-404 and KY-243 Boards. Pick the top of the Board Spacer (2) using a Long Noise Pliers. Remove the LE-113 Board while releasing the lock.
② Remove the IF-404 and KY-243 Boards, and pull out the LE-114 Board.
 
</td></tr>
<tr><td>LE-114</td><td>–</td><td>–</td></tr>
</table>

3-7. USE OF EXTENSION BOARD, EX-209 (DVS-6000/6000C)

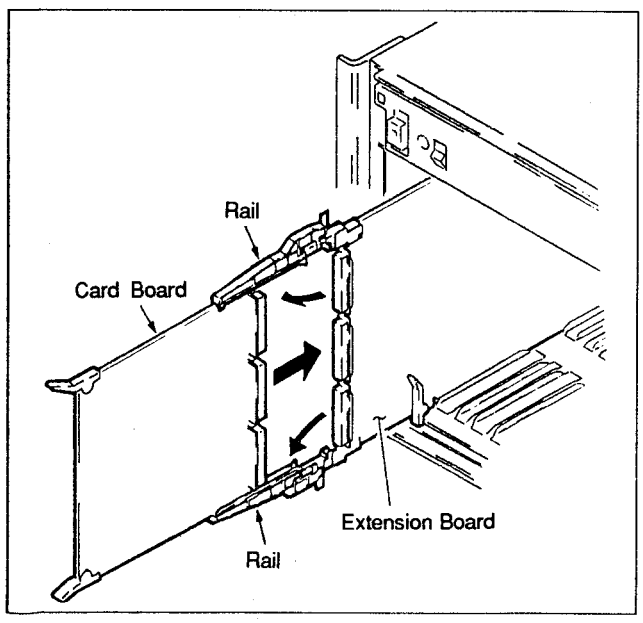
Extension Board (For Card Board Adjustment)

(1) Pull out the Board requiring the adjustment in the procedures shown in Section 3-7. Installation/Removal of Board.

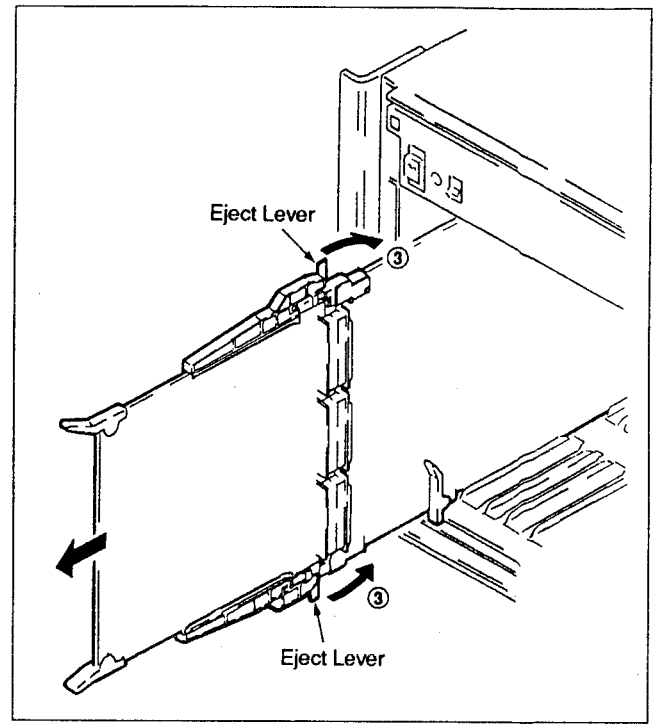
(2) Push the Extension Board in the Slot, and fix the Extension Board while pushing the Board Lever in the direction of arrow ①.



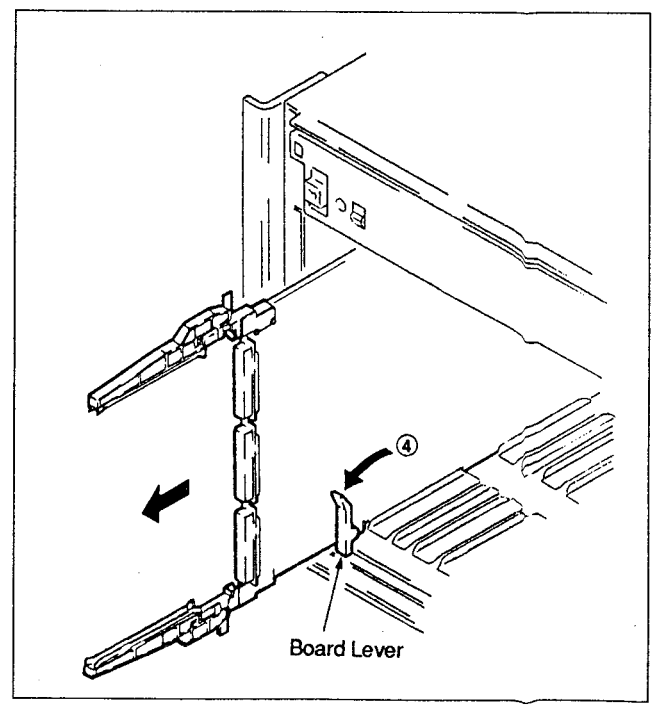
(3) Open the Rail of the Extension Board till locks to Rail Lock. Push the Board requiring the adjustment along the Rail of the Extension Board, and adjust it.



(4) After adjusting, press the Board Lever in the direction of the arrow ③ and pull out the Extension Board on this side.



(5) Press the Board Lever in the direction of the arrow ④, and pull out the Extension Board on this side.



3-8. NOTES ON REPAIR PARTS

(1) Safety Related Components Warning Components marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in the manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".

(3) Stock of Parts Parts marked with "o" SP (Supply Code) column of the spare parts list are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.

3-9. REPLACEMENT OF BACK-UP BATTERY

A RAM Back-up Battery inst installs on the CPU-14 Board. When replacing the Battery and after replacing the Battery, carry out the following procedure.
When replacing the RAM†Back-up Battery, use the Battery listed in the Parts List.

CPU-147 Board

The Battery on the CPU-147 Board is need to replace periodically referring to the operatiing time of the unit as a rough guide.
The standard replacement interval period is about four or five years.
Replace the Battery the following procedures.

(1) Before replacing the Battery, store the necessary data of the Battery into FD, and so on.

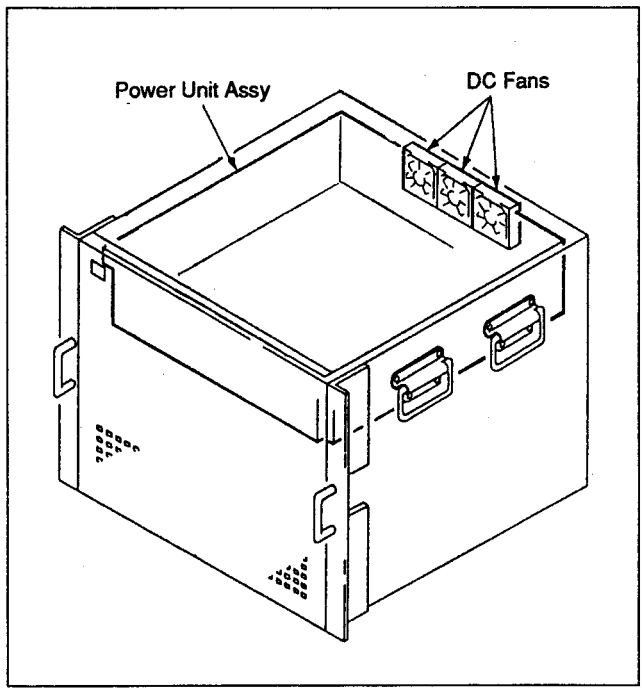
(2) After turning off the power of DVS-6000/6000C, remove the CPU-147 Board.

(3) Take care not to touch any conductive parts except the Battery, and replace the battery with a new one.

SECTION 4
REPLACEMENT OF MAIN PARTS

4-1. LOCATION OF MAIN PARTS (DVS-6000/ 6000C)

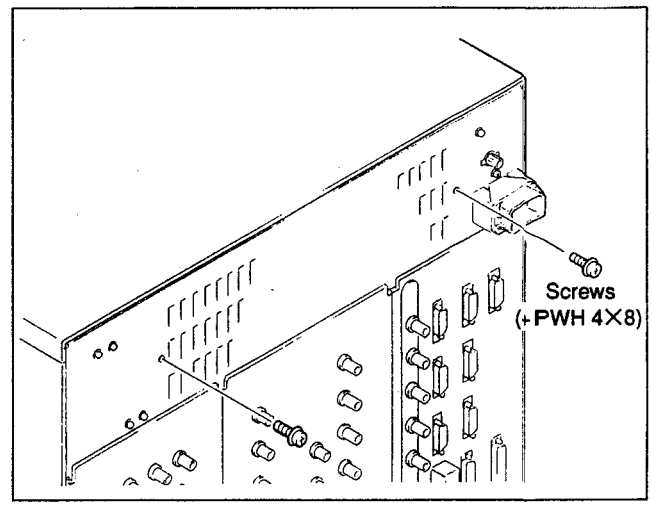
4-1-1. Location of Main Parts



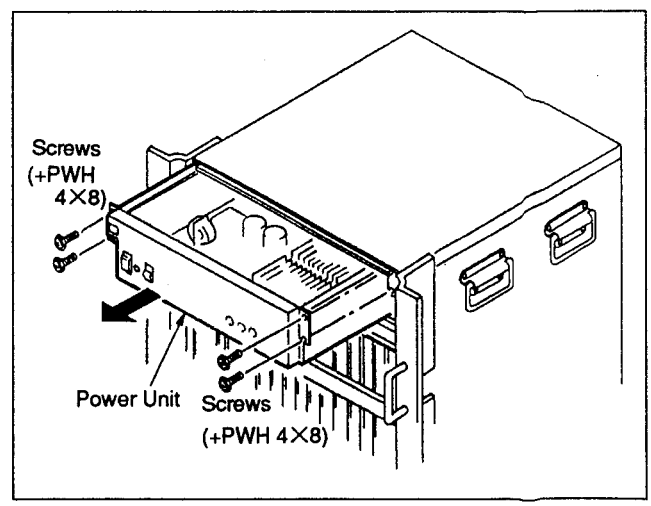
4-1-2. Removal of Power Unit Assy

Remove the Power Unit Assy in the following procedure.

(1) Remove two fixing screws at the Connector Panel side.



(2) Remove the Front Panel in the procedures of Section 3-2.
(3) Remove the four fixing screws of the Power Unit Assy.
(4) Hold the handles at the right and left sides, and pull out the Power Unit Assy in the direction of the arrow.

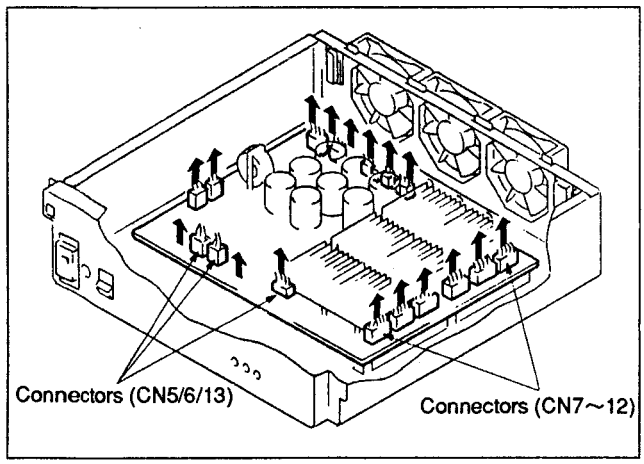


4-1-3. Replacement of RE-96 Board

Replace the RE-96 Board in the following procedures.

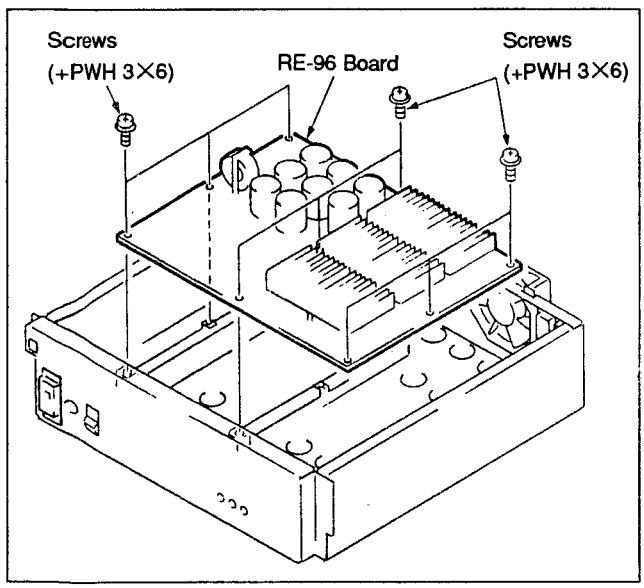
(1) Remove the Power Unit Assy in the procedures shown in Section 4-1-2.

(2) Disconnect the seventeen connectors (CN1 to CN17).

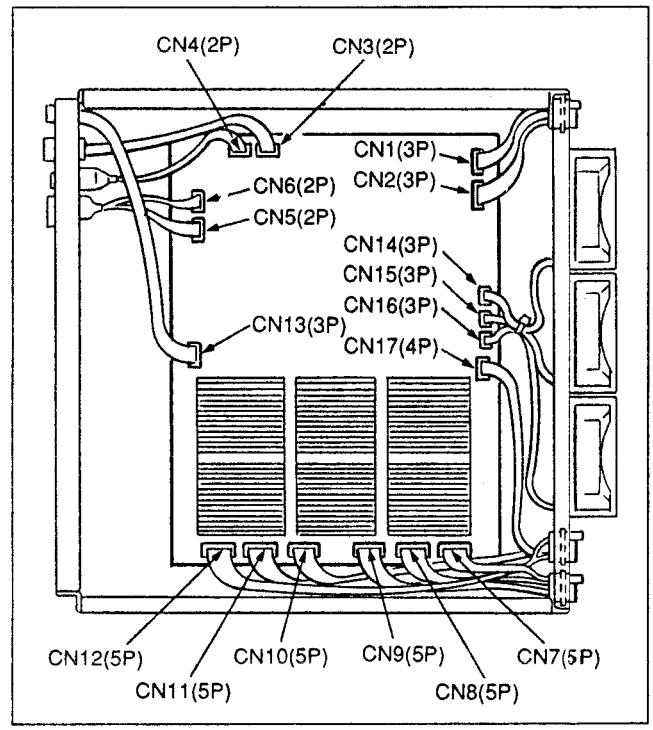


(3) Remove the nine fixing screws shown in the figure.

(4) Lift up the RE-96 Board, and remove it.

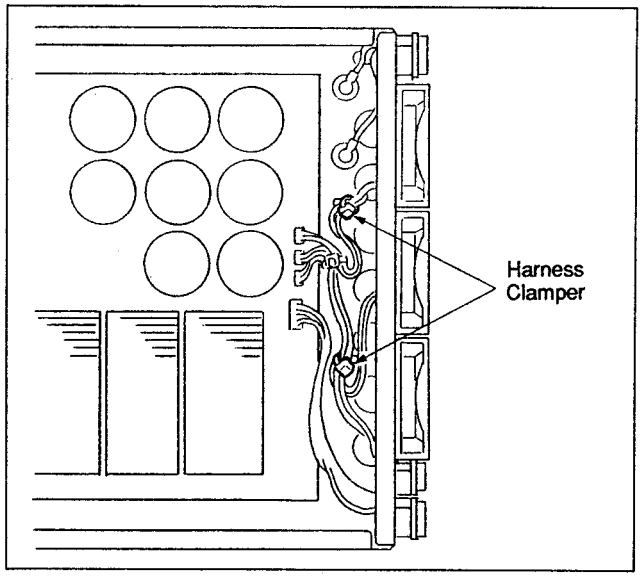


(5) Install a new RE-96 Board in reverse steps of procedure (1) to (4). When connecting the connectors, match the connector's number.

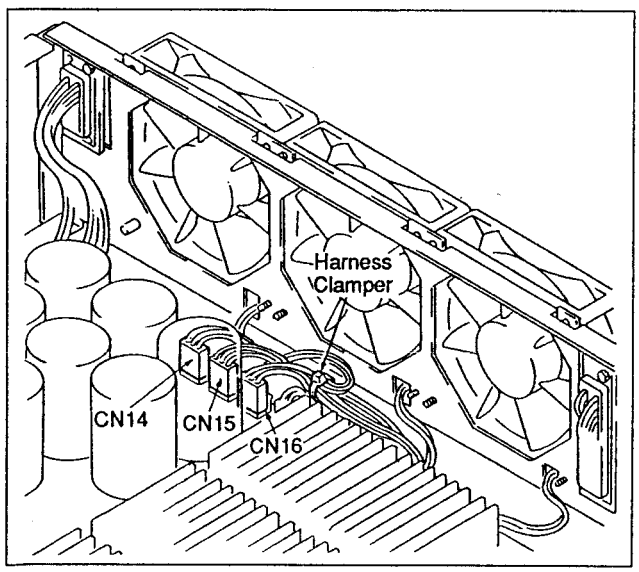


4-1-4. Replacement of DC Fan

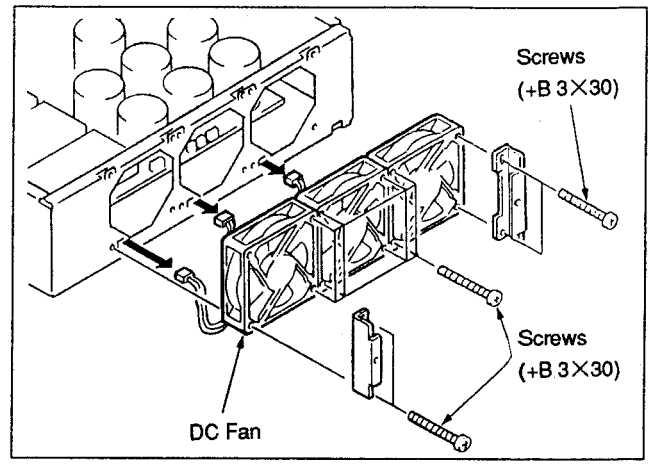
(1) Remove the Power Unit Assy in the procedures shown in Section 4-1-2.
(2) Release the harnesses from the two harness clampers.



(3) Cut the harness clamper which band the three connectors (CN14, CN15 and CN16).
(4) Disconnect the three connectors (CN14, CN15 and CN16).



(5) Remove the fixing screws, and remove the DC Fan.

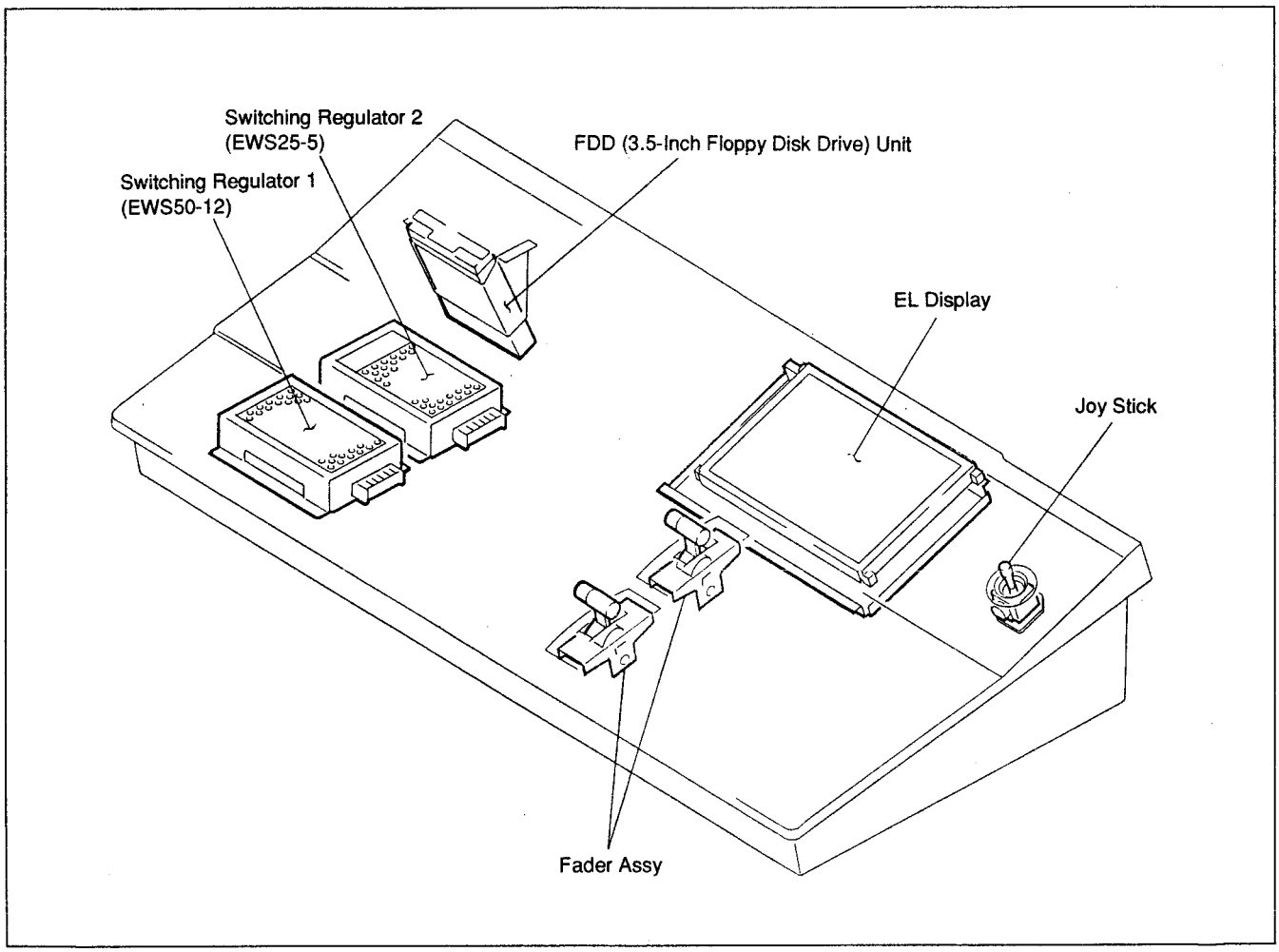


(6) Install a new DC Fan in reverse steps of procedure (1) to (5).

Note

1. Band the harnesses of CN14, CN15 and CN16 using a new harness clamper that is equivalent to the harness clamper which was cut off in procedure (3), so that the harness of DC Fan motor doesn't touch the fan blade.
2. After installing a new DC Fan, smear a Screw Locking Compound onto the top of the DC Fan's set screw. (To prevent the screw loosing.)

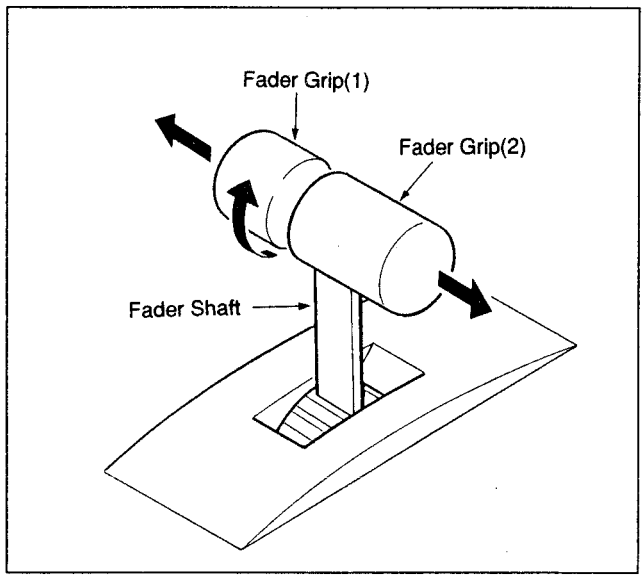
4-2. LOCATION OF MAIN PARTS (BKDS-6010)



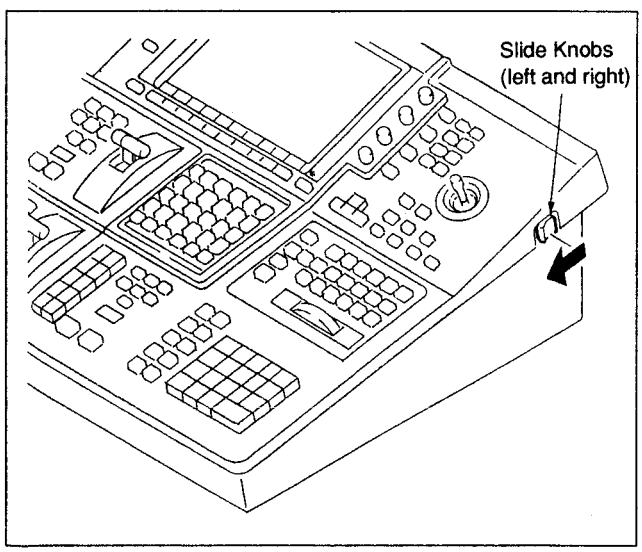
4-3. REPLACEMENT OF FADER ASS'Y

Replace the Fader Ass'y in the following procedure.

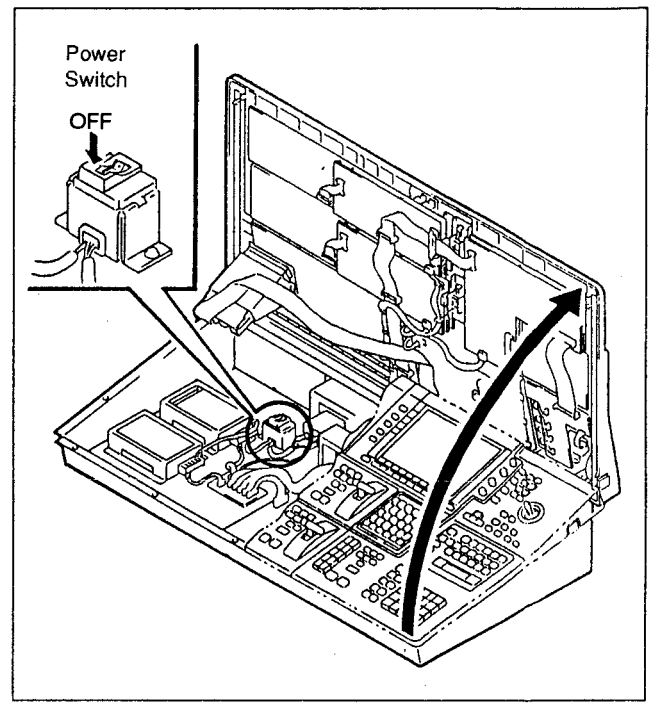
(1) Remove the Fader Grips on both sides while turning them in the direction of the arrow.



(2) Move the two Slide knobs at the left and right sides of the front panel in the direction of the arrows.

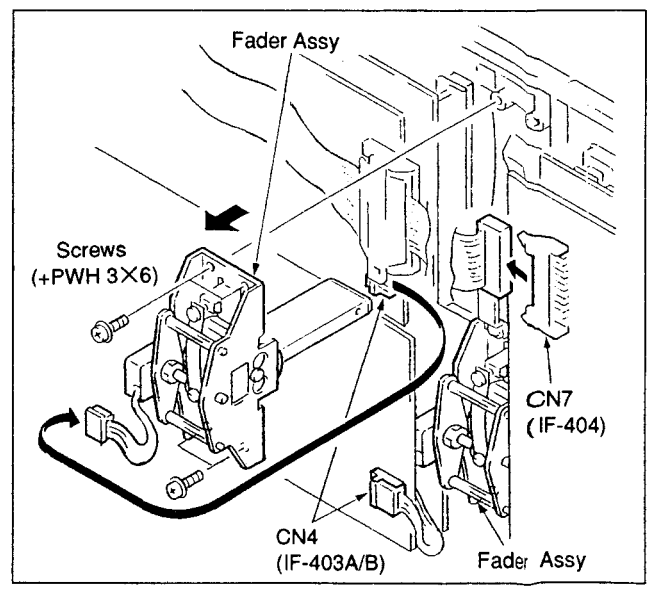


(3) Lift up the front panel and turn off the inside power switch.



(4) Disconnect the connector from the connector (CN4) on the IF-403 board and the connector (CN7) on the IF-404 board.

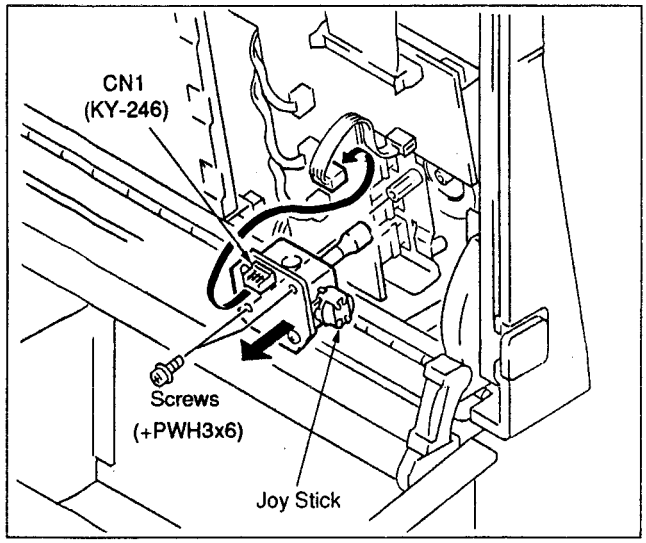
(5) Remove the four screws (+PWH 3 × 6) of the Fader Ass'y.



(6) Install a new Fader Ass'y in the reverse steps of (1) through (5).

4-4. REPLACEMENT OF JOY STICK

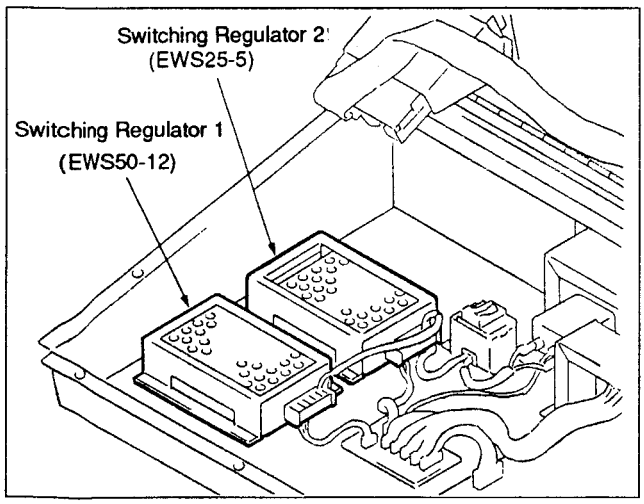
Replace the Joy Stick in the following procedure.
(1) Lift up the front panel, and turn off the inside power switch. (See the step (2) and (3) of Section 4-3.)
(2) Disconnect the connector (CN1) on the KY-246 board.
(3) Remove the two screws (+PWH 3 × 6) securing the KY-246 board.



(4) Install the KY-246 board with a new Joy Stick in the reverse steps of (1) through (3).

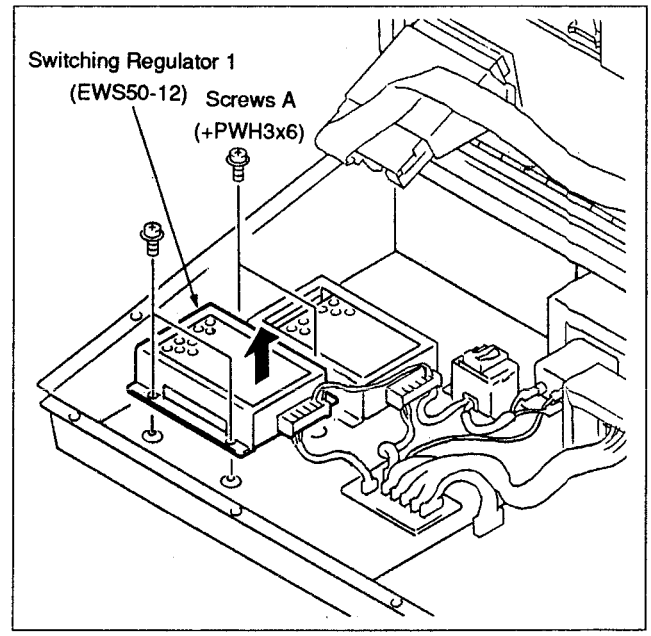
4-5. REPLACEMENT OF SWITCHING REGULATORS

BKDS-6010 has two kinds of the Switching Regulator.

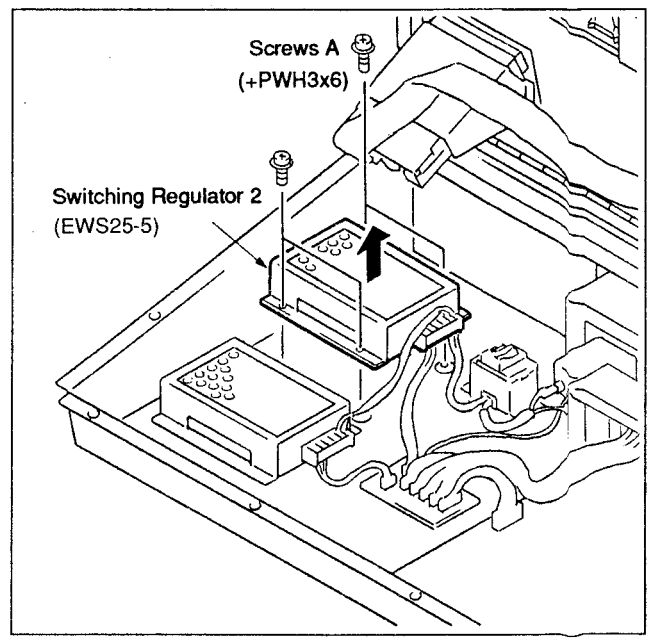


Replace the Switching Regulators in the following procedure.
(1) Lift up the front panel, and turn off the inside power switch. (See the steps (2) and (3) of Section 4-3.)
(2) Remove four screws A (+PWH 3 × 6) from the Switching Regulator Bracket.

In the case of Switching Regulator 1 (EWS50-12)

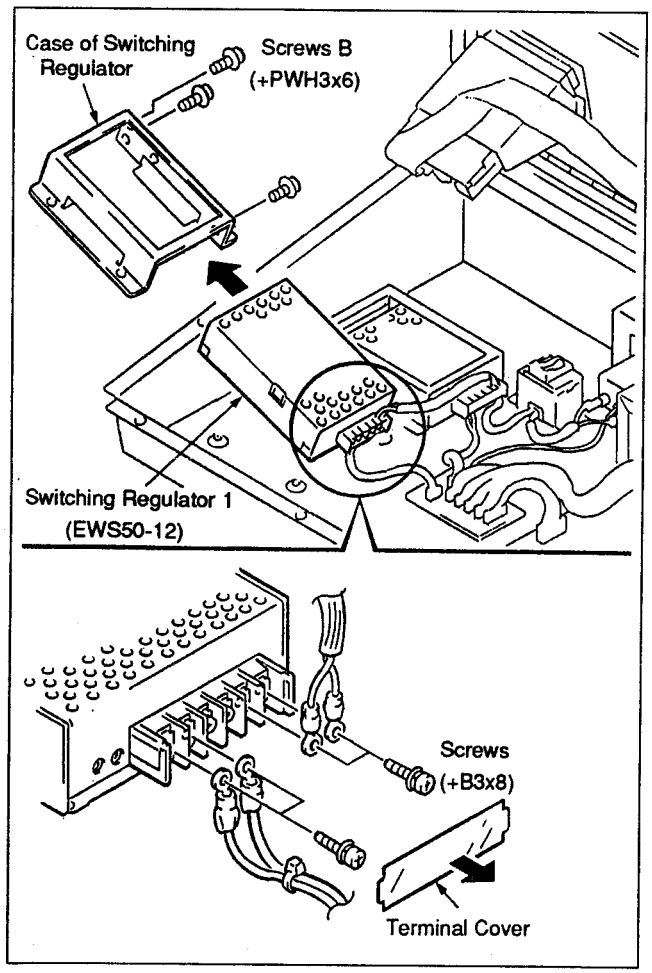


In the case of Switching Regulator 2 (EWS25-5)

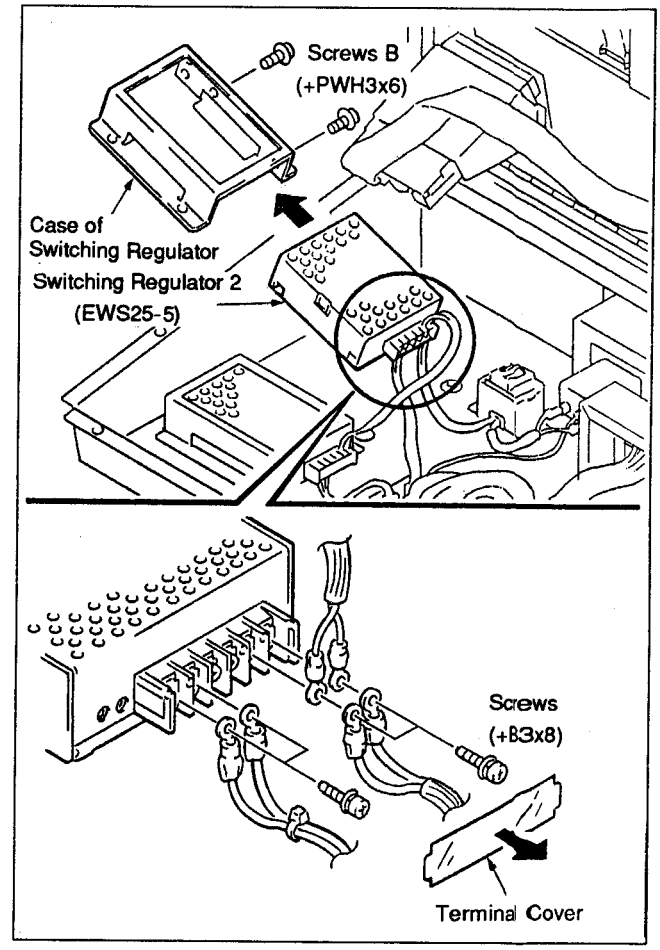


(3) Remove three (two for EWS25-5) screws B (+PWH 3 × 6) from the Switching Regulator.
(4) Remove the Terminal Cover and the four screws (+B 3 × 8). Then, remove the harness.

In the case of Switching Regulator 1 (EWS50-12)

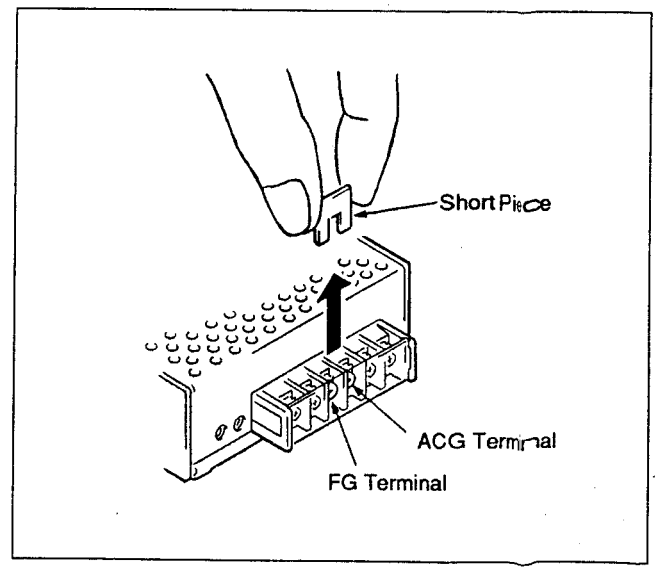


In the case of Switching Regulator 2 (EWS25-5)



(5) Install the new Switching Regulator in the reverse steps of (1) through (4).

Note: Before installing the new Switching Regulator, disconnect the short piece shorting between the FG terminal and ACG terminal.



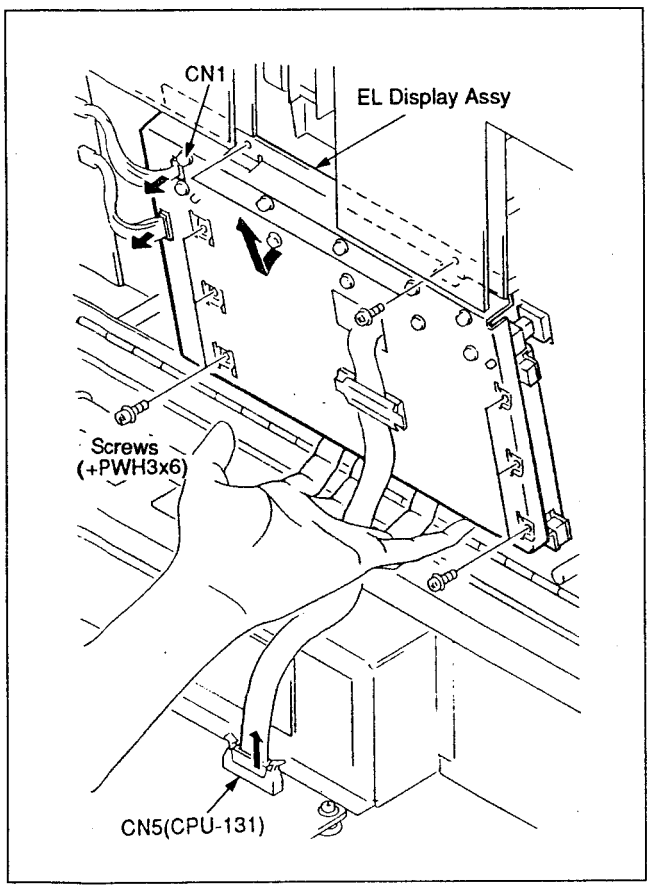
4-6. REPLACEMENT OF EL DISPLAY UNIT

Replace the EL Display unit in the following procedure.

(1) Lift up the front panel, and turn off the inside power switch. (See the steps (2) and (3) of Section 4-3.)

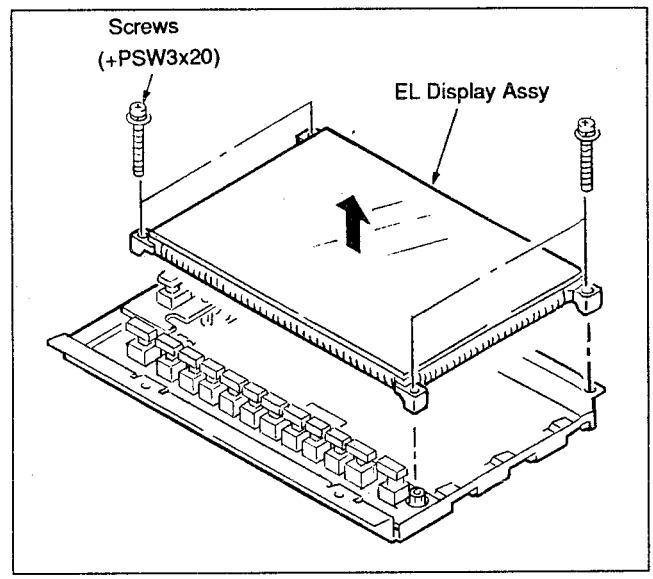
(2) Disconnect the two connectors (CN1) from the rear side of the EL Display Ass'y, and the connector (CN5) on the CPU-131 board.

(3) Remove the eight screws (+PWH 3 × 6) and remove the EL Display Ass'y.



Note: Support the EL Display with your hand when removing these screws.

(4) Remove the four screws (+PSW 3 × 20) from the front side of the EL Display.

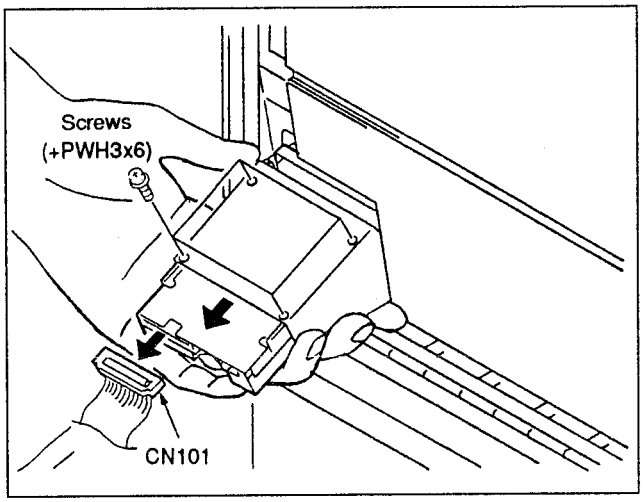


(5) Install a new EL Display in the reverse steps of (1) through (4).

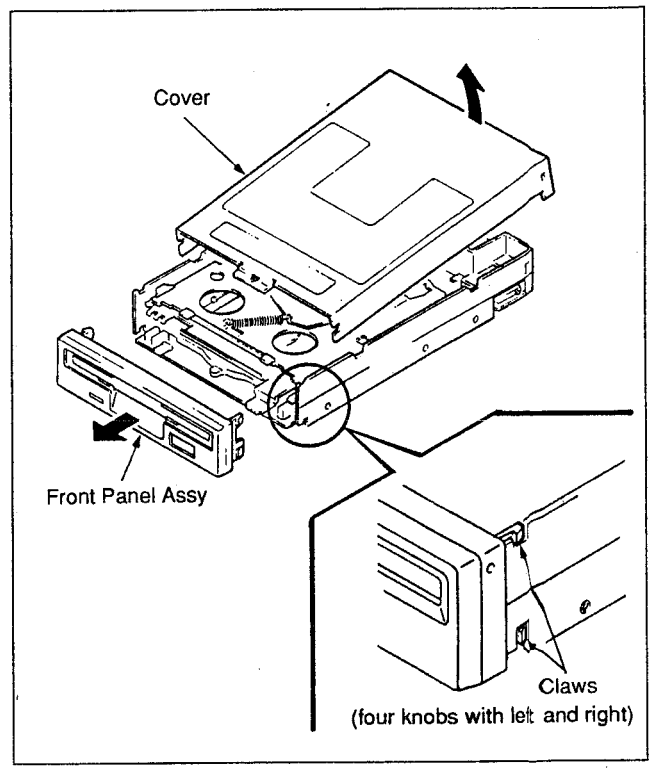
4-7. REPLACEMENT OF FDD (3.5-Inch Floppy Disk Drive) UNIT

Replace the FDD unit in the following procedure.

(1) Lift up the front panel, and turn off the inside power switch. (See the steps (2) and (3) of Section 4-3.)
(2) Disconnect the connector (CN101) from the FDD Ass'y.
(3) Remove the four screws (+PWH 3 × 6) and remove the FDD Ass'y.



(4) Lift up the cover in the direction of the arrow, and remove it.
(5) Remove the four claws with the Minus Driver.



(6) Install the new FDD Ass'y in the reverse steps of (1) through (5).

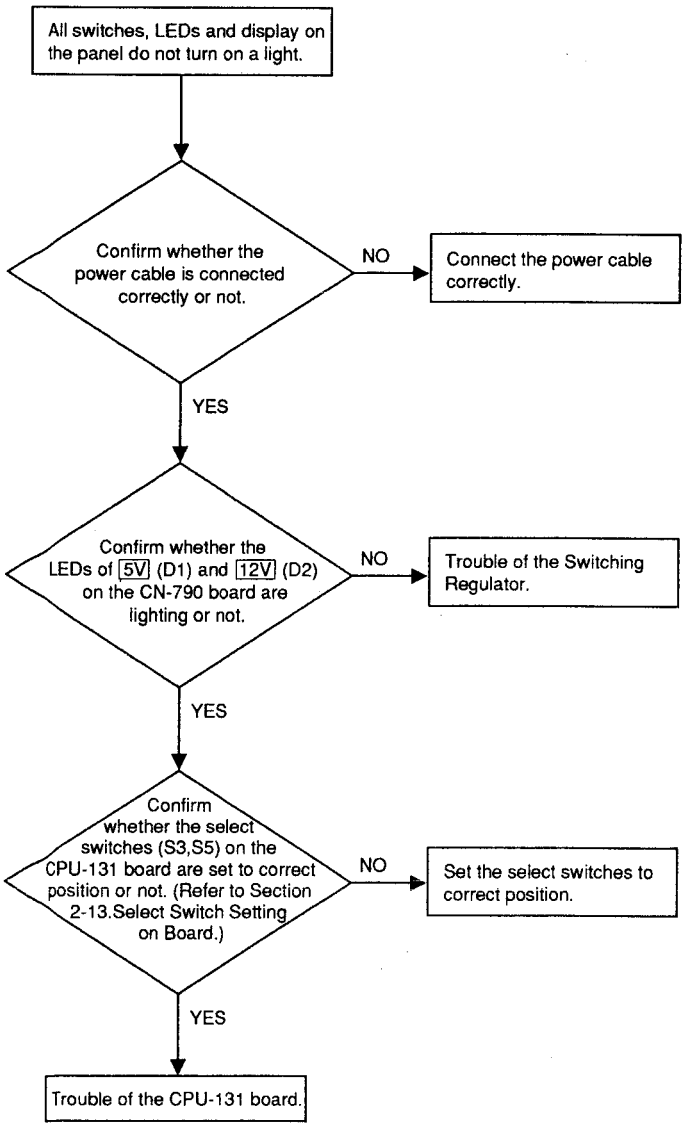
Note: The FDD Ass'y supplied as service part is different from the FDD Ass'y with the unit as the standard in the color. Using the FDD Ass'y supplied as the service part has no effect on capacity.
When replacing the front panel Ass'y of the FDD Ass'y, remove the four claws in the left and right side with the Minus Driver. Install the new front panel Ass'y of FDD Ass'y supplied as service part.

SECTION 5
TROUBLE SHOOTING
(BKDS-6010)

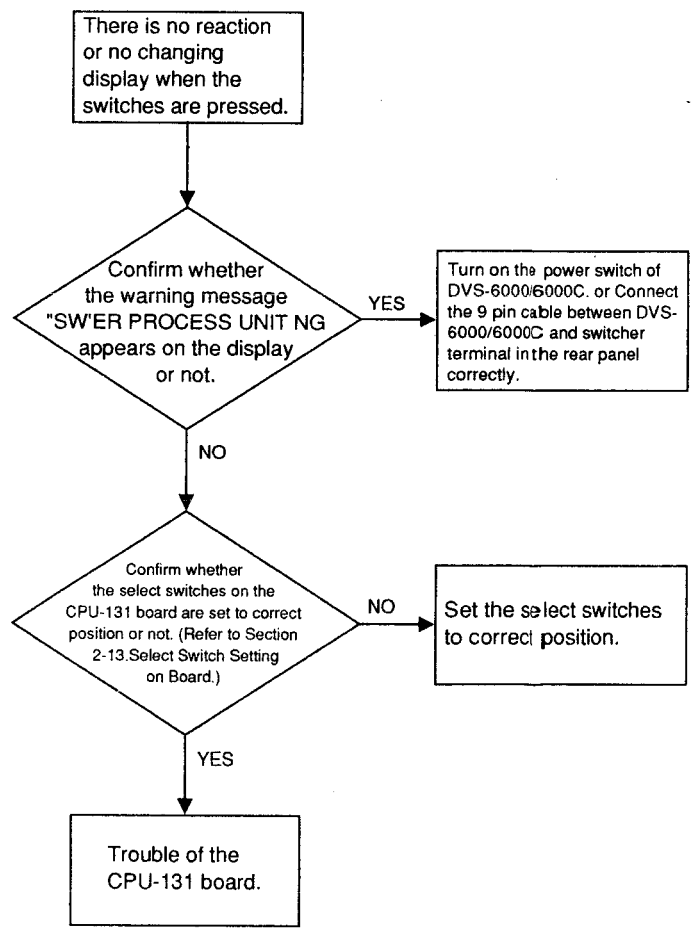
5-1. TROUBLE SHOOTING

5-1-1. Troubles of Power Supply

(1)

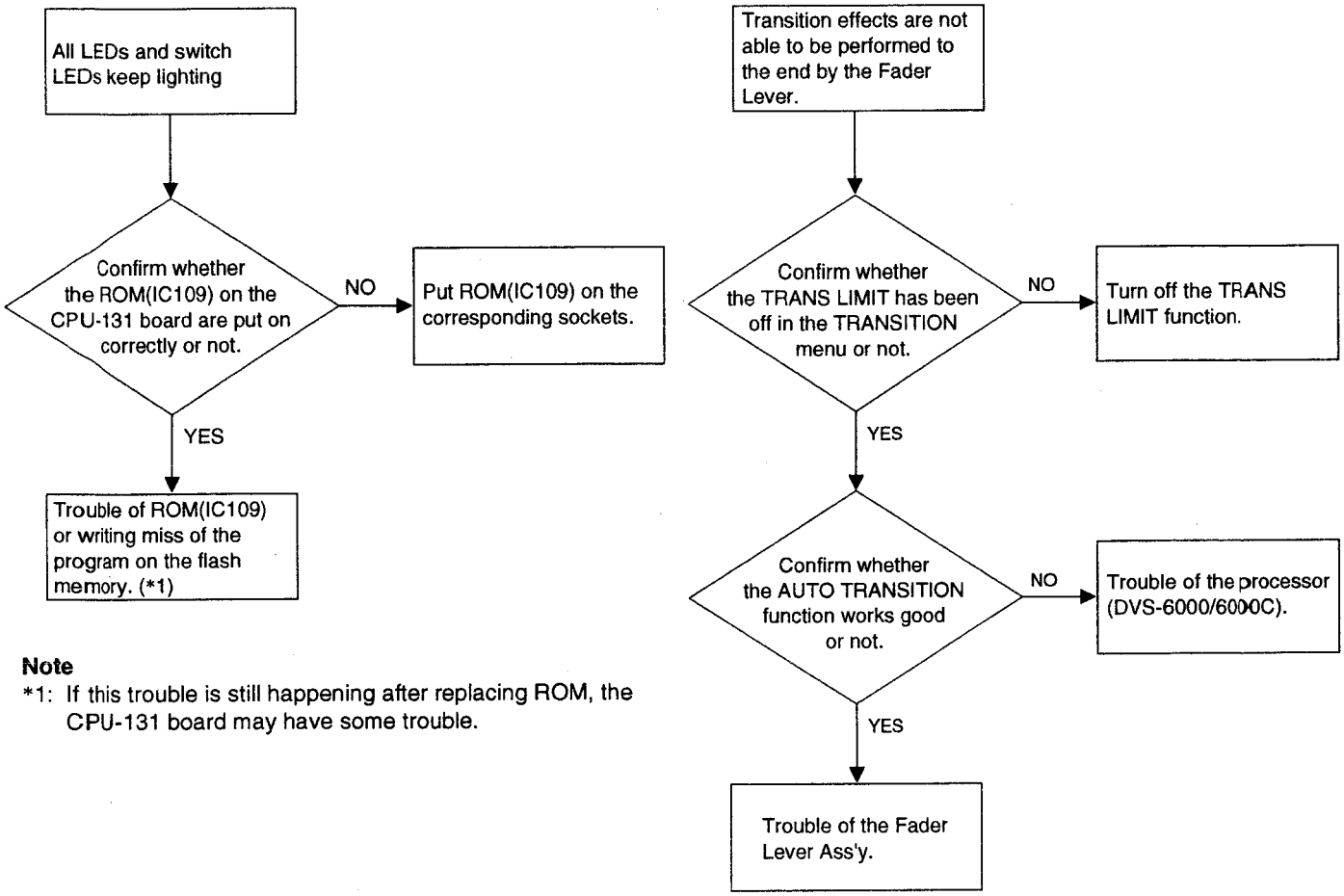

All switches, LEDs and display on the panel do not turn on a light.
Confirm whether the power cable is connected correctly or not.
NO
Connect the power cable correctly.
YES
Confirm whether the LEDs of 5V (D1) and 12V (D2) on the CN-790 board are lighting or not.
NO
Trouble of the Switching Regulator.
YES
Confirm whether the select switches (S3,S5) on the CPU-131 board are set to correct position or not. (Refer to Section 2-13.Select Switch Setting on Board.)
NO
Set the select switches to correct position.
YES
Trouble of the CPU-131 board.

(2)


There is no reaction or no changing display when the switches are pressed.
Confirm whether the warning message "SW'ER PROCESS UNIT NG appears on the display or not.
YES
Turn on the power switch of DVS-6000/6000C. or Connect the 9 pin cable between DVS-6000/6000C and switcher terminal in the rear panel correctly.
NO
Confirm whether the select switches on the CPU-131 board are set to correct position or not. (Refer to Section 2-13.Select Switch Setting on Board.)
NO
Set the select switches to correct position.
YES
Trouble of the CPU-131 board.

5-1-2. Trouble of Transition Effects

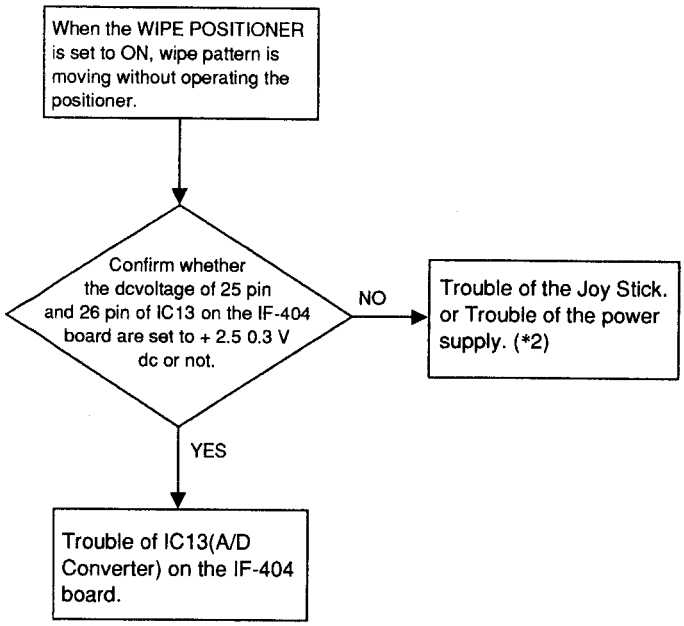
(3)


All LEDs and switch LEDs keep lighting
Confirm whether the ROM(IC109) on the CPU-131 board are put on correctly or not.
NO
Put ROM(IC109) on the corresponding sockets.
YES
Trouble of ROM(IC109) or writing miss of the program on the flash memory. (*1)
Transition effects are not able to be performed to the end by the Fader Lever.
Confirm whether the TRANS LIMIT has been off in the TRANSITION menu or not.
NO
Turn off the TRANS LIMIT function.
YES
Confirm whether the AUTO TRANSITION function works good or not.
NO
Trouble of the processor (DVS-6000/6000C).
YES
Trouble of the Fader Lever Ass'y.

Note

*1: If this trouble is still happening after replacing ROM, the CPU-131 board may have some trouble.

5-1-3. Trouble of Joy Stick

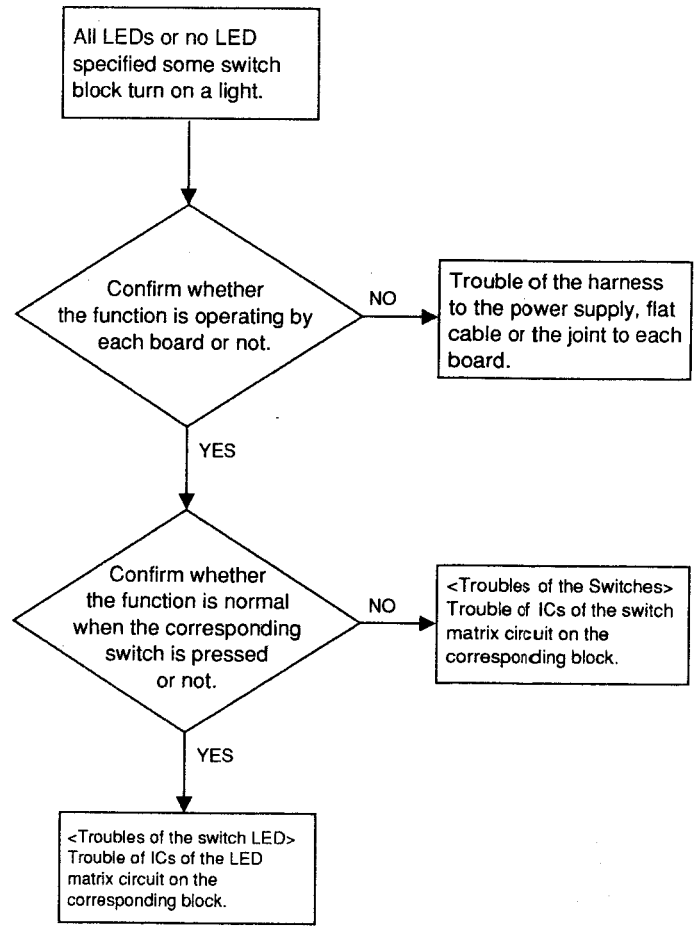

When the WIPE POSITIONER is set to ON, wipe pattern is moving without operating the positioner.
Confirm whether the dcvoltage of 25 pin and 26 pin of IC13 on the IF-404 board are set to + 2.5 0.3 V dc or not.
NO
Trouble of the Joy Stick. or Trouble of the power supply. (*2)
YES
Trouble of IC13(A/D Converter) on the IF-404 board.

Note

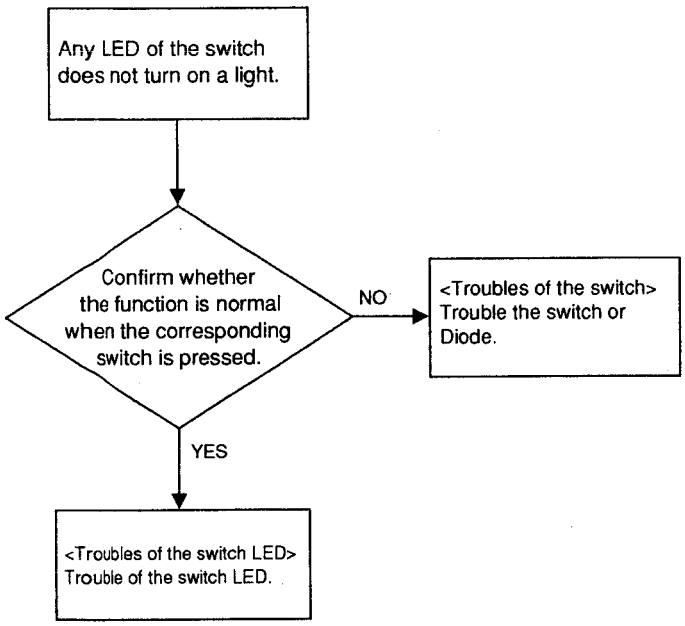
*2: Trouble of a flat cable between the IF-404 board and the KY-245 board or trouble of the harness cutting between the KY-245 board and the KY-246 board.

5-1-4. Troubles of Switch

(1)


All LEDs or no LED specified some switch block turn on a light.
Confirm whether the function is operating by each board or not.
NO
Trouble of the harness to the power supply, flat cable or the joint to each board.
YES
Confirm whether the function is normal when the corresponding switch is pressed or not.
NO
<Troubles of the Switches> Trouble of ICs of the switch matrix circuit on the corresponding block.
YES
<Troubles of the switch LED> Trouble of ICs of the LED matrix circuit on the corresponding block.

(2)



5-2. DIAGNOSIS MENU

- BKDS-6010 can carry out the following Trouble-Diagnosis tests in using a Diagnosis menu.

1. Tests of scan and LED light of each switch
2. Tests of Transition Rate Indicator and Alphanumber Indicator
3. Tests of Fader Lever, Volume knobs and Joy Stick
4. Test of FDD (Floppy Disk Drive)

Procedure

(1) Press the [DIAG] button on the top menu keys. Diagnosis menu appears on the display.
(2) Press item [1] (PANEL) key.
(3) Test the each item by procedure shown in the display.

5-3. TROUBLE-DIAGNOSIS BY USING TERMINAL OF BKDS-6010

- BKDS-6010 can check all functions when connect the following terminal.

1. Terminal software
   VT100 or equivalent
2. Communication System
   RS-232C Baud Rate : 9600
   Data Length : 8 bit
   Parity : no parity
   Stop Bit : 1

Connection

Connect the terminal to TERMINAL 1 terminal (9 pin) on the rear panel of BKDS-6010 or CN8 (elco 8 pin) on the CPU-131 board. The details of each terminal are shown as follows.

Rear panel
TERMINAL 1terminal (9 pin)
9 PIN CONNECTOR

Pin No.	Function
2	RXD
3	TXD
5	GND
7	RTS
8	CTS

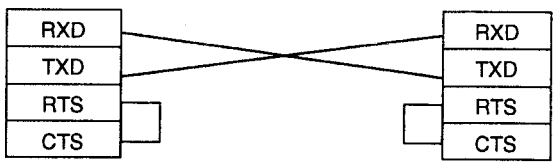
Table 1

CN8 on the CPU-131 board (5 pin)
ELCO

Pin No.	Function
1	RXD
2	TXD
3	CTS
4	RTS
5	GND

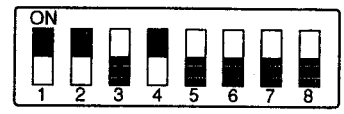
Table 2

Note: RXD(receive data) and TXD(transition data) shown in Table 1 and 2, shows data for BKDS-6010. So, connect the terminal TXD to RXD, and the terminal RXD to TXD. For CTS and RTS, short-circuit between the terminal side and BKDS-6010 side with the cable.



- The Self-Diagnosis mode set up by using the terminal Set up in the following procedure.

(1) Connect the terminal to start the system.
(2) Set the select switch S3 on the CPU-131 board as follows.



Note: ■ mark shows the switch position.

(3) Press a reset switch S1 on the CPU-131 board.

Test menu is displayed on the terminal by above operation.

Note: In Test menu, take care of the following items.

1. When execute the Flash Memory test of the Memory test, the contents of flash memory (IC47~54) are erased. In this case, the operation cannot be normal without loading the operating program by using FD again.
2. When carrying out the TIMER & INTERRUPT test or VD test of PIO test, connect the processor DVS-6000/6000C to SWITCHER terminal on the rear panel. Unconnecting the terminal results in abnormal operation.
3. When carrying out the Communication test, connect the terminals as follows.
   ① In the case of SIO 0 test
   Connect between SWITCHER terminal and TEST terminal on the rear panel with 9 pin cable.
   ② In the case of SIO 1 test
   Connect between DME terminal and TEST terminal on the rear panel with 9 pin cable.
   (This test is available only when BKDS-6010 has BKDS-6050 Key Frame Option Board. If not having BKDS-6050, NG is displayed in this test but that is no problem.)
   ③ In the case of SIO 2 test
   This is not used. NG is displayed in running test but that is no problem.
4. If BKDS-6010 is not connected to DVS-6000/6000C in VD test of PIO test, NG is displayed.
   If not having BKDS-6050 in KY-244 SENSE test of PIO test, NG is displayed, but that is no problem.

SECTION 6
SPARE PARTS AND FIXTURES FOR USERS

プリント基板、主要部品…等の交換を行う場合には、ここに掲載してある商品名・部品番号を参考するなどして、部品を入手してください。

This section contains information for ordering parts.
When ordering replaceable parts such as printed circuit boards and major components, use the names and parts numbers that are listed in this section.

SPARE PARTS

Description	Part No.
CPU-147 BOARD	A-8271-809-A
DSK-9 BOARD	A-8271-808-A
DSK-9(A) BOARD	A-8271-890-A
KPC-5 BOARD	A-8271-807-A
LE-118 BOARD	A-8271-813-A
LE-118(A) BOARD	A-8271-891-A
MAT-4 BOARD	A-8271-812-A
MIX-8 BOARD	A-8271-810-A
MIX-8(A) BOARD	A-8271-889-A
OUT-3 BOARD	A-8271-811-A
RE-96 BOARD	A-8271-814-A
SG-210 BOARD	A-8271-815-A
SG-211 BOARD	A-8271-892-A
WKG-10 BOARD	A-8271-806-A
CPU-131	A-8271-798-A
IF-403(A)	A-8271-796-A
IF-403(B)	A-8271-715-A
IF-404	A-8271-797-A
KY-238	A-8271-714-A
KY-239(A)	A-8271-791-A
KY-239(B)	A-8271-716-A
KY-240	A-8271-792-A
KY-241	A-8271-799-A
KY-242	A-8271-800-A
KY-243	A-8271-793-A
KY-245	A-8271-794-A
KY-246	A-8271-795-A
FADER ASSY	A-8267-076-A

PRODUCTS

Description	Product
BD-22 BOARD	BKDS-6071
DA-71 BOARD	BKDS-6061
DA-72 BOARD	BKDS-6062
DA-73 BOARD	BKDS-6064
IF-418 BOARD	BKDS-6050
KY-244 BOARD	BKDS-6050
LE-76 BOARD	BKDS-6090
LE-115 BOARD	BKDS-6050
MT-90 BOARD	BKDS-6072
RE-96 BOARD	BKDS-6090
SD-30 BOARD	BKDS-6060
SD-31 BOARD	BKDS-6030
WP-37 BOARD	BKDS-6070
XPT-3 BOARD	BKDS-8022
OPERATION SOFTOWARE WITH MANUAL (J)	BZS-6010
OPERATION SOFTOWARE WITH MANUAL (E)	BZS-6020

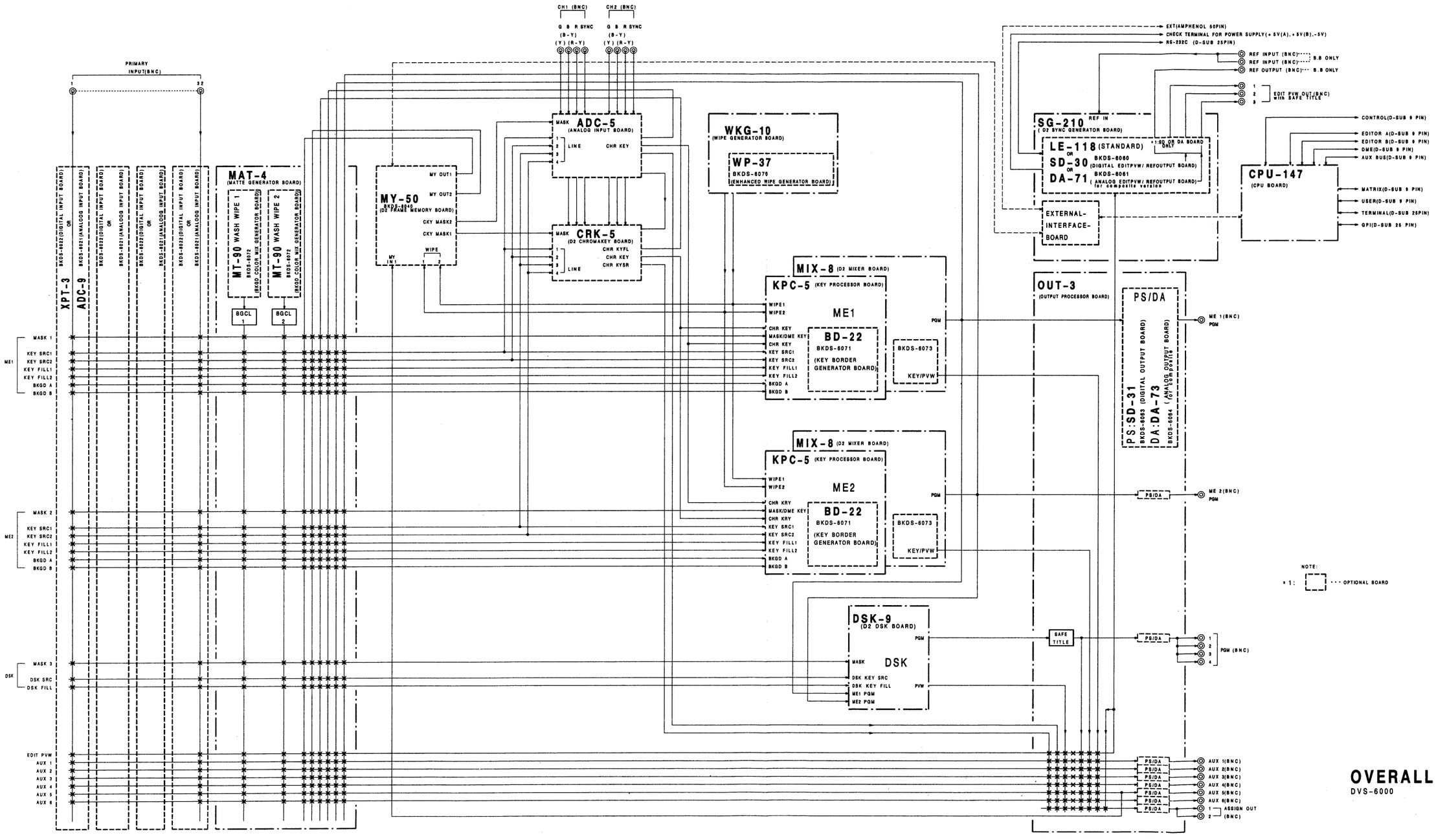
TOOLS

Service tools	Part No.
EX-209 ASSY	A-6279-727-A
CABLE, DIGITAL TP	J-6186-270-A
CABLE, BNC-UM	J-6264-360-A

SECTION 7
BLOCK DIAGRAMS

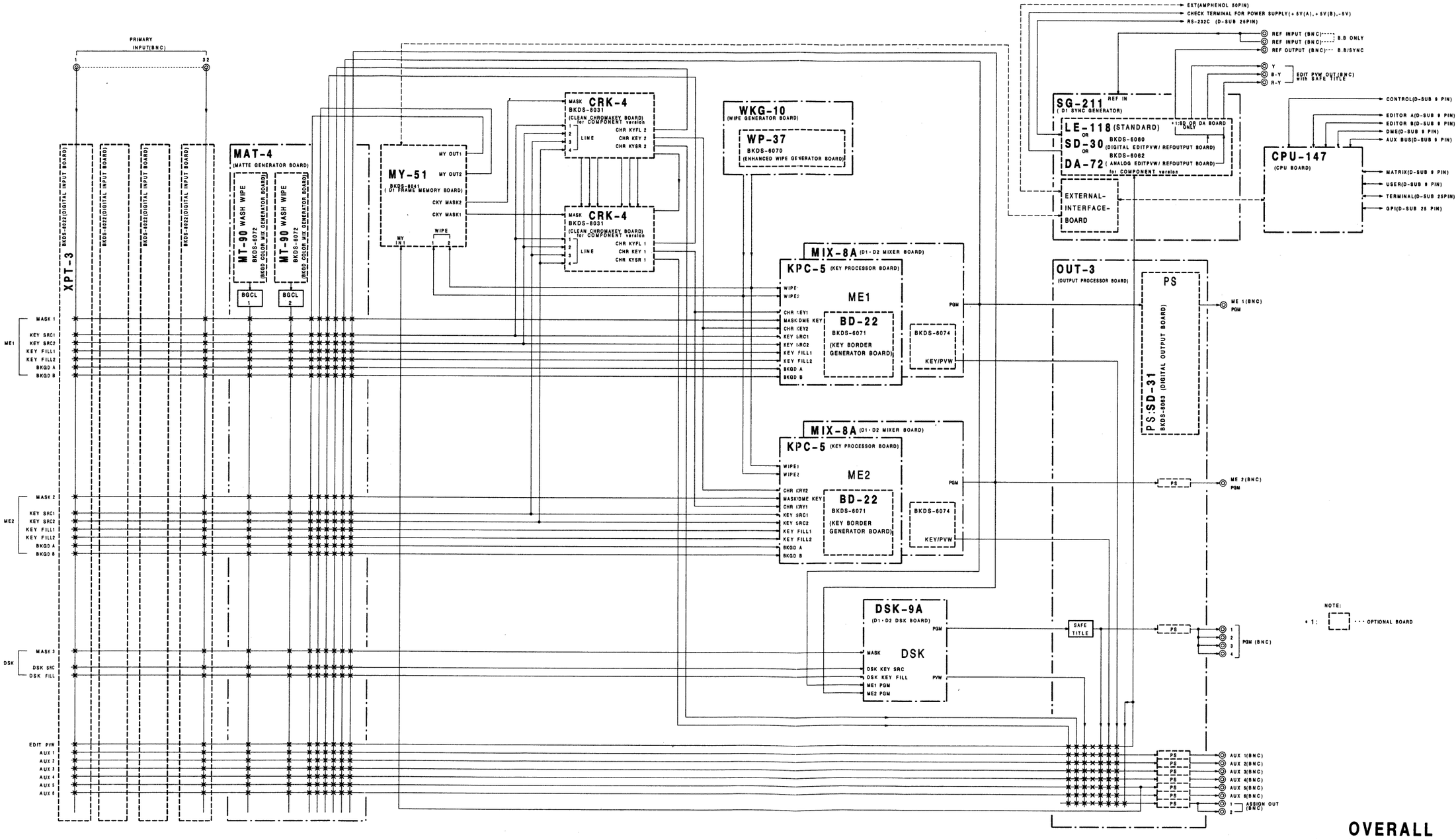
7-1. BLOCK DIAGRAM

DVS-6000 BLOCK DIAGRAM



OVERALL
DVS-6000

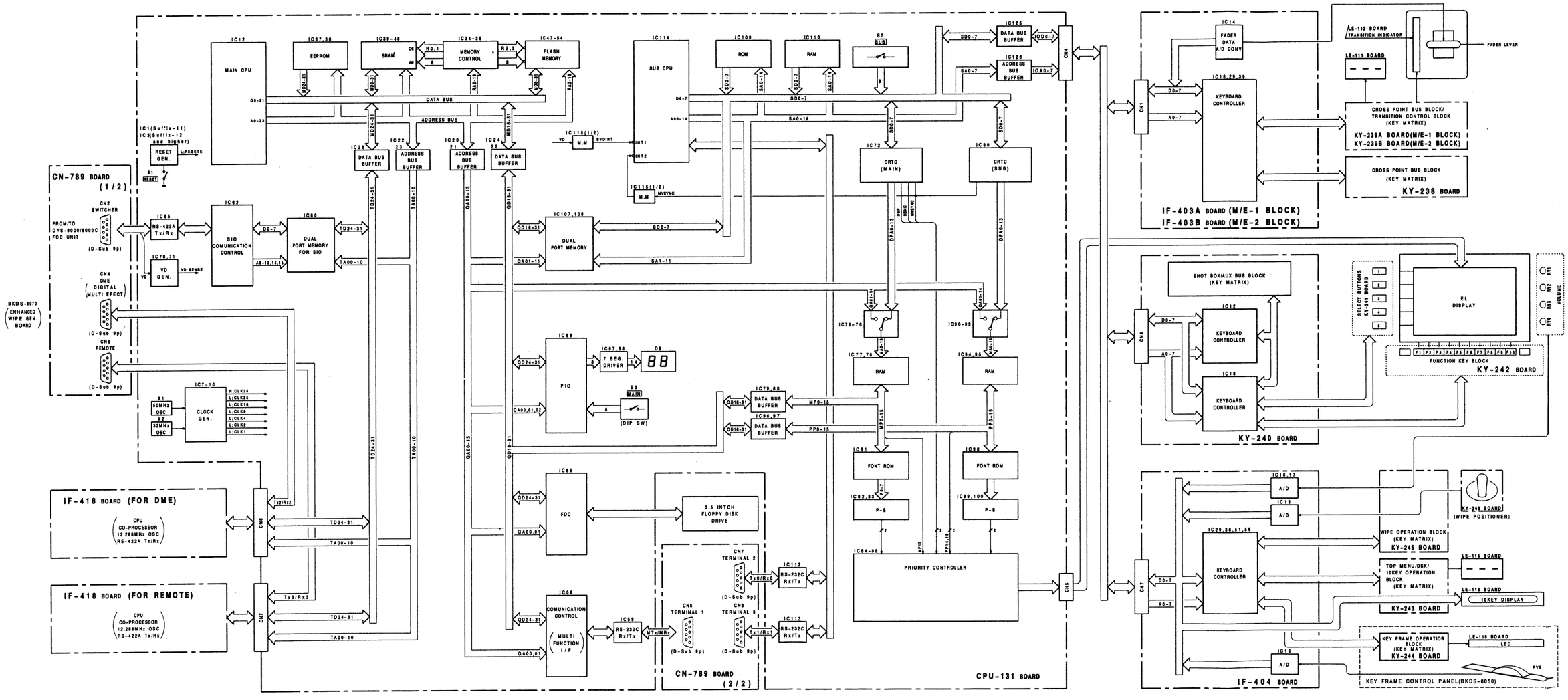
DVS-6000C BLOCK DIAGRAM



OVERALL
DVS-6000C

7-2

7-2. BKDS-6010 BLOCK DIAGRAM



OVERALL
BKDS-6010